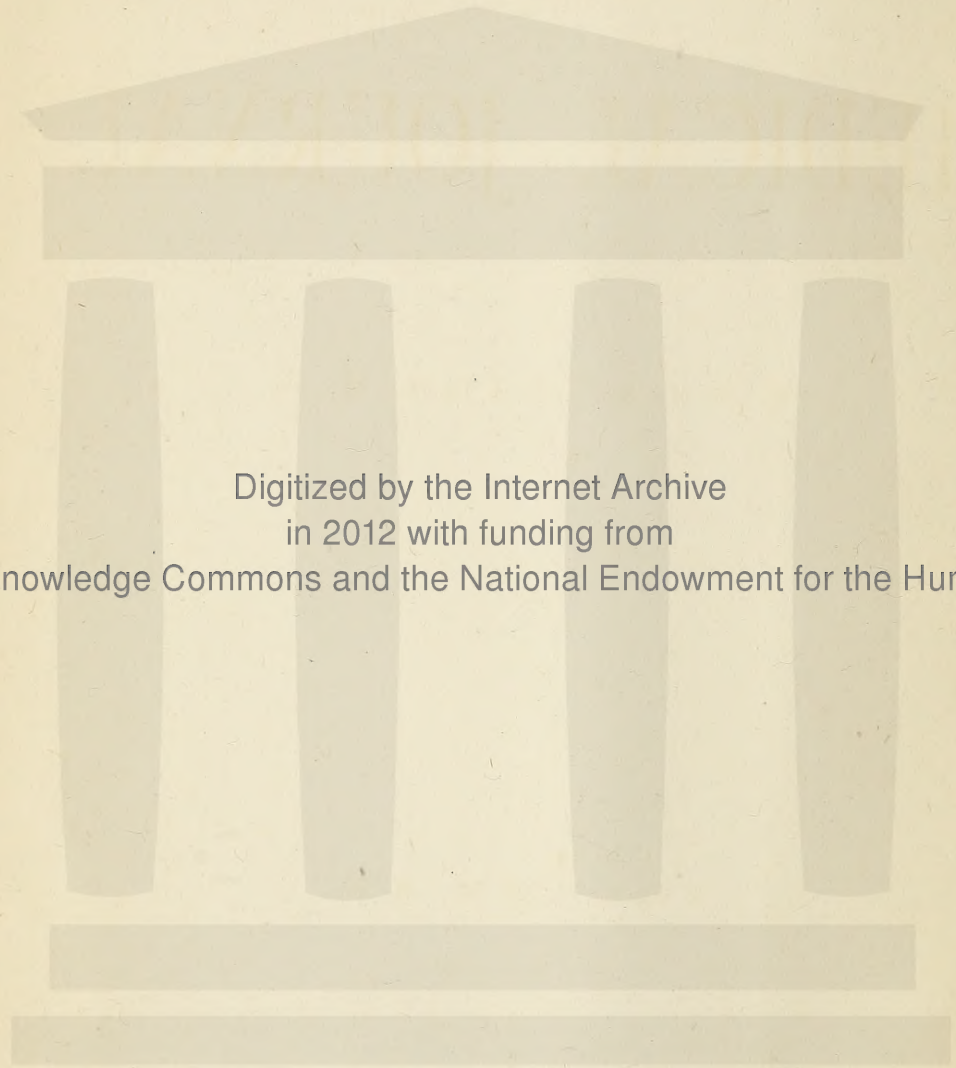

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THE

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ORIGINAL COMMUNICATIONS.

"Qui docet discit."

ART. I.—CASES OF DISEASE IN THE ORBIT. By H. D. NOYES, M. D., New York.

Mrs. R. B., aged thirty-three, came to the New York Eye and Ear Infirmary in September, 1873. She says that about two months ago she was attacked with severe pain in the right side of the face, and the next day the eyelids swelled and the globe became prominent. About four weeks after, an abscess pointed at the inner angle of the lower lid below the inner canthus, and was opened and discharged pus. A continuous discharge has been kept up ever since, and now there is a pouting opening, such as is usual in cases of caries. A probe properly curved can be passed backwards and downwards a distance of between three and a half and four inches, and in its progress comes in contact with dead bone. The depth and direction of the track led to an examination of the posterior nares by the rhinoscope, and Dr. Lefferts, who kindly made the examination, found a mass of granulative tissue filling up the posterior aperture of the right nostril. This was evidently the orifice of the fistula. So striking was the appearance, that Dr. Lefferts made a water-color drawing of it, which he was good enough to contribute to my notes of the case. The treatment then instituted

consisted in the cleansing of the fistulous track with a syringe three times weekly, by which the stream of water was carried into the throat, and caustic applications to the granulative mass behind the velum palati, made by Dr. Lefferts. In connection with this, I several times introduced into the facial orifice of the fistula tents of compressed sponge, by which it was enlarged enough to admit the finger. From time to time scales of dead bone were extracted. In about three months' time the sinus was completely closed; the eyeball was entirely restored to its normal appearance; the granulation in the posterior nares disappeared, and the discharge ceased.

Remarks.—An important element in the success of this case was the treatment of the disease in the nasal cavity. Without attention to this, it would certainly have been very difficult, if not impossible, to obtain the closure of the sinus at the facial orifice. An aggravated nasal catarrh would certainly have remained and persisted. Fortunately, the patient had admirable control of the faucial muscles, and readily permitted the necessary manipulations with the mirror. An advantage connected with this opening into the nostrils, was that it facilitated thorough cleansing by the syringe, because the water was not compelled to flow backwards. The process of dilating the sinus by compressed sponge was evidently of great service in promoting the cure; it gave some pain, the pieces being kept in some twenty-four hours, until they had swollen to their utmost; but after their removal, the escape of bits of bone and secretion was easy, and the walls of the abscess more rapidly grew together.

Erysipelas of Head and Face—Cellulitis Orbita—Loss of One Eye—Death.—Robert F., aged twenty-eight years, iron-founder, New York, in April, 1874, was attacked by erysipelas of the scalp, put himself under the care of Dr. Bliss, who, after a time, called me in consultation. The disease had caused great infiltration of the skin, and had attacked not only the eyelids, but the tissues of the orbits. The lids of the right could be separated by a pair of elevators just enough to give a peep at

the eye, while the left globe was pushed out of the orbit so as to project beyond the lids. Dr. Bliss had already made a vertical incision through the left upper lid to relieve the pressure on the globe. The skin of the forehead was livid and purplish, its temperature cold like the cadaver, it scarcely pitted on pressure, and was almost devoid of sensation; it was dotted with small bulba and was extremely tense. I picked off a dense crust, which covered the left globe, and found the cornea clear and pupil of normal appearance, but the eye sightless; it projected from the orbit half an inch, and was absolutely immovable. Patient was in a torpid state of mind, able but slow to answer questions, pulse small and frequent.

The manifest indication of treatment was to give relief to the extreme tension of the inflamed tissues. I therefore made three incisions through the skin of the forehead vertically from the roots of the hair to the root of nose, and to the middle of each eyebrow. The skin was hard and resisting like raw salt pork; it bled very little, and the cut surfaces presented innumerable small foci of pus. The eyelids were deeply incised in a direction parallel to the brows, and in the left orbit, where the ball was extruded, the bistoury was carried deeply in toward the apex, both above the eye and at the outer angle. No fluid of any kind was discharged, nor was much pain experienced. The tension of the skin and connective tissue was fully relieved, but no pus in fluid form was found. The appearance of the patient's face after the many severe cuts about the forehead and eyelids was simply hideous. His general condition demanded the most energetic stimulation and feeding, which was effectually carried out by Dr. Bliss. In the progress of the case, as the patient gradually grew better, the skin assumed a softer condition, and almost immediately after the incisions above described, it showed evident signs of relief.

The subsequent history was precisely like any other severe case of erysipelas which ends with recovery. The eyeball which was pushed out of the orbit could not long withstand the damaging effects of its exposed position, and it underwent sup-

puration, which began in the cornea. I call attention, however, to the fact that its function was first destroyed by the acute inflammation in the orbital cavity acting on the optic nerve and deep parts of the eye. This globe finally went into atrophy.

After the patient was able to go out, he called on me for advice regarding his remaining eye. This I found congenitally defective. It was hypermetropic to the degree requiring the formula + 8 spherical ⊜ + 16 cylindrical 90° for distance, and even when thus aided, its vision was only 20.70. This defect was a serious drawback, but in the sequel it appeared that his health had been so deeply affected by the erysipelas that he succumbed some weeks afterwards to a moderate attack of bronchitis. The importance of the bold treatment adopted to control the erysipelas was fully demonstrated by the success which followed.

Traumatic Amaurosis.—P. R., aged thirty-two, laborer, came to the New York Eye and Ear Infirmary on April 1, 1874. He was a large man, about six feet four inches high, and weighed about two hundred pounds. A week before coming, he was thrown from his truck and struck the right side of his head on the pavement. The blow was upon the temple and quite severe, because of the suddenness of his fall as the wagon-wheel plunged into a deep hole, which, in the evening, he did not notice, and also because of his great weight. He was not stunned, but had violent pain in the head. He noticed almost immediately that his right eye was wholly blind. Within two days he applied to the out-door Poor Department of Bellevue Hospital, and was examined by Dr. Bacon. There was some swelling of the lids; no apparent injury of the eye; and, on examining the interior of the eye with the ophthalmoscope, nothing abnormal could be seen. The media, membranes, and optic nerve looked healthy; yet the man asserted that with the right eye he could see absolutely nothing, not even light.

On the seventh day after the injury, Dr. Bacon brought the man to me, and I could, for the most part, confirm the result of

his examination. The optic nerve was not in a perfectly natural state, but showed some capillary hyperæmia and haziness of substance, but the large vessels were natural. Examinations were made as to the truth of the patient's statement about his one-eyed blindness, and his answers to the various tests by prisms and otherwise were always consistent. He also complained of trouble in the opposite, the left, ear. On inspection, a small laceration was found in the membrani tympani.

In about two weeks there occurred some loss of sight in the other eye—viz., vision 20.40, whereas it had been normal. In this, the ophthalmoscope discovered commencing inflammation of the optic nerve. The artificial leech was applied, and the patient kept for two days in the dark. After the 20th he ceased attending, and nothing has since been heard from him. Probably the neuritis optici of the left eye did not advance far. Before the patient ceased his visits the optic nerve of the right eye took on the ordinary appearance of advanced white atrophy. Nothing has since been seen of him.

Traumatic Amaurosis.—Mr. A. J. F., New York, came to me October 8, 1874. When a boy the right eye was damaged by the penetrating of a bit of stone. A capsular cataract adherent, and partly adherent and partly detached iris were produced. In April, 1874, he attempted to cross a railroad bridge upon a foot-path, a single plank wide, mounted upon a velocipede. He fell off a height of about twenty-four feet, and struck his head on the shore of the river. He was rendered unconscious, and received a wound over and parallel to the brow two inches long. There was bleeding from the nose, none from the ear or mouth. The face and head swelled badly. There was some numbness along the intra-orbital nerve and pain along the supra-orbital. There was immediate and total loss of sight. The eye was examined by Dr. Scott, of Cleveland, who made the diagnosis of hæmorrhage into the nerve sheath. The principal basis of the opinion was the smallness of the vessels at the ocular end of the nerve. I am not inclined to deny that there may have been some intra-vaginal hæmorrhage, but I attribute the sudden

and complete blindness to the direct shock which the optic nerve sustained in the foramen opticum. The crushing force disintegrated many of the nerve fibres and paralyzed all of them. Subsequent to the injury, the nerves underwent inflammation, and the appearance presented to my inspection was simply that of atrophy.

The other eye, operated on first by iridectomy and then by removal of a piece of capsule. He obtained vision with convex $2\frac{1}{2}$, which enabled him to read Snellen's $4\frac{1}{2}$ at 10 inches. With $+ 3\frac{1}{2}$ V = 20.200.

Remarks.—The two cases above reported can not claim more than a hypothetical diagnosis. But to this point I would call attention: In the case of P. R., who was examined by Dr. Bacon, a competent observer, within four or five days of the time of injury, the condition of the optic nerve was, to appearance, so healthy as to greatly puzzle him for the explanation of the total loss of vision. This fact precludes any supposition of hæmorrhage into the nerve sheath, because in this event the circulation in the optic disc would have been interfered with and the papilla itself likely to be swollen. So, too, occlusion of either veins or arteries, by a laceration of their coats, can not be supposed. There remains nothing but the direct effect of the blow on the nerve tissues. This idea has been embodied in the diagnosis, which, in such a case, has sometimes been made—viz., concussion of the retina. The objections to this hypothesis are, that it is almost inconceivable that such a shock could be communicated to the eyeball as to paralyze the retina without exhibiting some sign of violence in the interior of the globe, such as rupture of the retinal vessels, or what we often see, rupture of the choroid. The second objection to this theory is, that if one eye thus suffers, there can be no reason why the other does not suffer in the same way, because it must receive precisely the same degree of violence.

My own explanation is that the damage inflicted is in the foramen opticum, where the nerve passes from the cavity of the skull to the orbit. The mechanism is the transmission of

force along the dense outer wall of the orbit, so as to concuss the nerve trunk against the sharp edges of the foramen, as if it were struck with the back of a heavy knife-blade. As the force meets the cellular and laminated structure of the ethmoid, it is so diffused as not to inflict the same shock upon the outer optic nerve, but may not leave it entirely unharmed. The other nerve may entirely escape injury, or in it a slower inflammatory process may be set up, as in the first of these two cases.

By reference to the skull, it will be noticed that if a blow be struck upon the external angular process of the right frontal bone where it joins the malar bone, the direct line of transmission is along the outer wall and roof of the orbit, meeting first the large foramen lacerum anterior or sphenoidal fissure, and next the foramen opticum. Next in order is the large sphenoidal sinus, which, in connection with the cells of the ethmoid, is ample to dissipate the force and protect the left foramen opticum and its nerve. But on the same thus traced comes the petrous portion of the left temporal bone, and as it takes the shock there can be no wonder that some injury should be done to the ear. This occurred in the case of P. R., in the linear rent of the membrana tympani. In brief the action of the blow supposed is obliquely across the base of the skull from the right temporal frontal region to the left ear, and from its mischief the parts around the apex of the left orbit are sufficiently protected by the hollows in the bone.

I think a satisfactory explanation is thus given of the remarkable facts of these two cases—namely, sudden and total loss of sight in the eye on the side where the blow was given, and the almost entire absence of symptoms to explain it, while the opposite eye sustained little injury.

Thrombosis of Sinuses at Base of Skull Simulating Aneurism in the Orbit.—Mrs. B., aged thirty-five, widow, New York, September 28, 1873. Last December patient had a fall down stairs; descending first to a platform, where she fell without stumbling, so far as she can remember, and was then

unconscious; remembers going down a few steps with muff and bundle, etc., and in the act of turning around to speak to some one. When, after two days, she regained her senses, the left side of the face was bruised and swollen, eye-ball prominent and mouth drawn to right side; was sick in bed three days; then found that she could not close her left eyelid; mouth crooked; does not think that globe protruded, but lids were swollen; had no vomiting at time of injury; nose bled profusely, bled again daily; two days by turns; had no running or bleeding from ear; was picked up in five minutes; had power of arm, leg, etc. After three days, able to walk about room and eat well; in ten weeks went home. For two weeks more found memory impaired. From February to about June 1st, no other symptoms than paralysis of left facial nerve, including orbicularis; about June 1st, noticed the veins of angle of eye and temple began to enlarge; recollects a beating sound from the earliest time of the injury, does not seem now any louder than at first; had no dizziness; never had headache; sleeps well; find partial paralysis of left facial; lids down to one-fourth of an inch; pupils natural; inner angular veins of upper lid and temporal are all varicose and full, feel thrill by hand over eyeball; globe projected about one-half an inch; hear a bruit with great distinctness over globe, not over right globe; but it can be heard in right and left temple, and over both mastoids; she will not bear pressure enough over the carotids to stop the pulse and bruit; ophthalmscope shows arteries to be small; veins larger, full and not very tortuous; slight pressure causes venous pulse; arterial pulse uncertain; left membrani tympani opaque and whitish; no signs of scar, but it looks like chronic catarrhal inflammation; has not had any nose bleeding since the injury; regular in menses; globe moves easily; no diplopia; suffusions of globe, etc.

May 12, 1874, patient came to infirmary (Dr. Eno); the exophthalmos remains about the same; no diplopia; no headache; no paralysis; vision = 20.80. Ophthalmoscope shows veins to be full; arteries rather small; pressure easily stops

circulation in veins and arteries. The vessels on this side of the forehead, cheek, temple and lids decidedly more full and varicose. Thrill heard all over both sides of head and down upon neck; general condition fair. The want of increase in symptoms and the facts of Bowman's case ("Ophthalmic Hospital Reports," 1859–60, vol. ii, page 6) led me to renounce the diagnosis of aneurism in favor of thrombosis of the sinuses at the base of the skull and deep jugular vein.

The case alluded to has so much importance that I quote an abstract of it, and its similarity in symptoms with the one which I have narrated will be sufficiently apparent.

"A woman, aged forty, of irregular, dissipated habits, was admitted February 19, 1858, into King's College Hospital, under the care of Mr. Bowman, with symptoms supposed to depend on orbital aneurism. Five months previous to patient's admission, she had been struck on left temple and knocked down. Pain was quite severe for two weeks in left temple, it was succeeded by a rushing noise like a working steam-engine. The noise was so loud that three weeks after the accident her husband could hear it. The subjoined memoranda were made on her admission. General fullness of the left orbital region with prominence of the eye, which is congested; the pupil dilated but active; sees distant objects perfectly, but is unable to read. The angular vein and one over the outer edge of orbit are dilated. There is an abrupt depression in the lower border of the orbit at the articulation between the motor and upper maxillary bones. A loud sibilant bruit can be heard extensively over the left side of the head, but it is most intense above and in front of the ear. This sound is synchronous with the beating of the heart. A similar bruit is heard along the course of the great cervical vessels as far down as the common carotid artery. The fingers being placed on the left eye, when the lids are closed, pulsation is plainly felt, and the fingers are seen to rise and fall with it. A loud bruit is also heard when the stethoscope is placed on the front of the globe. Head symptoms, as giddiness and loss of memory, have never been

present. The irregularity of the lower border of the orbit seems to have resulted from a blow received three months after the first injury. One week after patient's admission the common carotid artery was tied by Mr. Bowman. On the following day she complained of great throbbing of the right side of head, and on the left side a sound like the noise of a drum a long way off. The eye was less prominent and less congested, and patient said that her sight was no longer bothered. On the eighth day after the operation the wound asumed a phagædenic appearance. A distinct bruit could be heard over the front of the eye just in front and a little above the ear; on the same side a continuous musical note of high pitch, swelling out at each pulsation, could be heard. Patient had repeated hæmorrhages, and died on the nineteenth day after the operation. As a result of the post-mortem examination, no tumor or aneurism was found. The internal carotid artery may have been partially compressed by the swollen walls of the cavernous sinus against the side of the sphenoid bone, giving rise to the bruit, which would have a good conducting medium in the cranial bones. The plugging of the trunk of the ophthalmic vein where it joins the cavernous sinus by obstructing the return of blood from the orbit, accounts for the protrusion of the eyeball, and perhaps also for the pulsation which was felt when the fingers were laid on it, because each diastole of the ophthalmic artery must have been attended by a general momentry increase of the whole quantity of blood in the orbit, because its exit through the ophthalmic vein was cut off, and the resisting bony walls of the orbit could permit a destension in front only. The healthy state of the internal carotid artery and its branches, and of the internal jugular vein, precludes the idea that pathological changes in the cranial sinuses commenced subsequently to the deligation of the common carotid."

ART. II.—COMPARATIVE THERAPEUTICS. By GEO. E. TRESCOT, M. D., of Greenville, South Carolina.

A distinguished writer of the present day, well known as the author of "The Reign of Law,"* tells us that we have several senses in which law is constantly used, and warns us that these must be carefully remembered:

1. We have law as applied simply to an observed order of facts.

2. To that order as involving the action of some force or forces of which nothing more may be known.

3. As applied to individual forces, the measure of whose operation has been more or less defined or ascertained.

4. As applied to those combinations of force which have reference to the fulfillment of purpose or the discharge of function.

Now apply these rules to disease, we have the observation of certain facts, as follows: A person every other day has a chill succeeded by fever, when the fever has gone the person returns to his ordinary health. This has been seen in a thousand cases, and we say that the person is suffering from intermittent fever. A young man after indulging his animal passions notices that he has a small pimple on his penis, in due time it becomes an ulcer, and may have around it a hard and indurated circumference, the sore heals, but in from six weeks to six months he has sore throat, and a rash makes its appearance over the body; this has been seen in a hundred thousand cases, and we call it syphilis; these are simply the observed order of facts.

For our second law, that order involves the action of some force or forces of which nothing more may be known, we have this thought, that disease is a mystery we never can understand, the reason why disease exists, takes its place alongside of the existence of evil, the man who accepts as an explanation in both instances the penalty of a broken moral law

* The Duke of Argyle.

only believes, he does not explain, and the man who rejects with contempt this solution has none better to offer.

For our third law, as applied to individual forces, the measure of whose operation has been more or less defined or ascertained, we have this knowledge, that intermittent fever follows exposure to something we call malaria, and that syphilis follows impure sexual connection.

For our fourth law, as applied to those combinations of force which have reference to the fulfillment of purpose, or the discharge of function, we have the refusal of the stomach to digest its food, the purpose of the stomach being to digest food; and the failure of the heart through disease of its valves to propel the blood with accuracy, the function of the heart being to regulate the circulation.

When a physician is summoned to the bedside of the sick, it is to give relief. He first observes the simple facts of the case, under this head will come the sex and age of the patient, whether the morbid state has existed for some time or has made its appearance suddenly; whether any particular organ seems to be specially implicated, and if not, has the patient been exposed to any of those influences which produce specific disease. All these facts being ascertained, he makes his diagnosis; having made his diagnosis, he mentally reviews all that he knows about the disease from which his patient is suffering, he then recalls all that has been said about the treatment of the disease he has to manage, he compares this with his own experience in similar cases, and then he writes his prescription and ventures to state his opinion as to the nature and result of the case.

If each individual disease always presented the same identical set of symptoms, and every drug was followed by an exact result, we would soon arrive at definite formulas under which we could treat cases; but the first lesson for a physician to learn is that a given disease may depart very widely from its true typical character, and that our most trusted drug will sometimes fail us.

Let me now take up some diseases in which inflammation plays a prominent part, briefly but concisely analyze these and see what it is we have to meet, and our resources for meeting it promptly and successfully. Peritonitis is a disease whose essence consists in inflammation, it also offers as fair a field for the trial of different therapeutical systems as any malady with which we have to deal. The peritoneum is a great serous membrane having connections with all the viscera contained in the abdominal and pelvic cavities; it is most important to remember these relations, for they hold a prominent place in the spread of disease arising at any one point, weigh materially in the danger to be apprehended, and bear directly on the means adopted to counteract and control the results when inflammation has once arisen. The causes of peritonitis are as various as the number of organs with which the membrane is connected, and by far the greater proportion of cases (I speak, of course, in a medical sense) depend upon the inflammation traveling, as it were, to the peritoneum, and not arising directly in the membrane itself. So true is this that Dr. Habersham states that of 500 cases on record in Guy's Hospital, "we cannot find a single case thoroughly detailed where the disease could be correctly regarded as existing solely in the peritoneal serous membrane. Gastritis, hepatitis, dysentery and typhoid fever, all give rise to peritonitis, as may also rheumatism, erysipelas, and in fact the great class of blood disorders. Upon inflammation occurring in the peritoneum, the full change that takes place in the membrane is the loss of its normal transparency and the exchange of its healthy shining appearance for one more or less turbid. At the same time it becomes drier, this dryness, however, according to Dr. Wardell, is more apparent than real. He says that even when the membrane appears to be dry, if handled it will feel moist and unctuous. As the inflammation continues, the membrane becomes exceedingly vascular, and with the dilatation of the vessels of course all those changes follow of which I spoke in my first article. Further changes will depend upon the violence of the inflam-

mation, and here it is necessary constantly to bear in mind this fact, that the exact point at which an inflammation never resolves itself, but must run on to suppuration, has not been definitely determined. When inflammation of a serous membrane reaches a certain grade, we have the membrane coated with fibrinous deposit, and a greater or less quantity of fluid poured out into its cavity. If at this point the inflammation should subside, and the quantity of fluid poured out has not been large, the two surfaces of the membrane will, by the absorption of the fluid, come again close together, and the result will be adhesive inflammation, the conservative effects of which are well known and thankfully appreciated. If on the other hand the inflammation shall be of an intense character and run beyond the point where resolution is possible, the quantity of fluid being two great to permit the sides of the membrane to come together, we have the morbid process continuing, with other changes resulting in suppuration.

A question may very naturally be asked, how does it come to pass that the exudation of a liquid is stopped, the following from Rindfleisch I give as the reply: "The cause lies in the first place in the transformation of the young proliferation of germinal tissue into fibrous connective tissue. The transformation is constantly connected with a certain shrinking, and this in turn leads to the obliteration of the great majority of the newly formed vessels, so that in regard to vascularity the completed adhesions represent but a very small fraction of the original vascular net. Upon the other hand, we must remember that the fibrin, which, being not only deposited upon the young connective tissue, but also projects into it with numberless processes, does not indeed organize, but yet contracts vigorously and from all sides. The contraction begins immediately after the separation of the clot, and if circumstances are otherwise favorable, advances constantly until it has either attained the smallest possible volume or until a further metamorphosis robs the fibrin of its characteristic peculiarity. Is it to be expected that this contraction of the fibrin should not act com-

pressively upon the covered and enclosed tissue of granulation and its vessels, and thereby put a stop to the transudation."*

In regard to the manner in which pus is formed upon an inflamed serous membrane, we quote from "Green's Pathology and Morbid Anatomy" (page 210). "If the inflammatory process does not subside, or from its commencement is of considerable severity, it is attended by the formation of large quantities of pus. In this case the emigration of blood-corpusles is so considerable, and the proliferation of the epithelial cells so rapid, that the young elements exist in large enough numbers to give to the exuded liquid a puriform character, * * * * as the submucous tissue becomes involved and a granulative tissue is formed, this continues to generate pus, like an ordinary granulating wound. If the pus be removed, the suppuration may gradually cease, the granulative tissue develops into a fibrous structure, and the union of the serous surfaces thus be affected. The serous membrane becomes greatly thickened, and the new tissue undergoes considerable contraction in the process of its organization."

The fibrinous effusion occurring in peritonitis acts as an irritant and becomes itself a means of extending the inflammation; of this manner of extension we will speak more particularly when later on we consider pleuritis. The diagnosis of peritonitis is, as a general rule, not difficult, there are certain diseases, however, which may be mistaken for it, prominent amongst which are colic, certain neuralgias and enteritis; but once peritonitis accurately made out as the thing we must fight, all are agreed that it is a genuine inflammation we must conquer. Let us consider now an inflammation in a mucous membrane, bronchitis offering many points of interest, and being an exceedingly common complaint, deserves much attention. Bronchitis, like peritonitis, is a distinct and marked example of inflammation; unlike peritonitis in the vast majority of cases, it arises from

* Text-book of Pathological Histology. Translation by Drs. Kloman and Miles, p. 266.

direct irritation, and is not attended by the adhesive form of inflammation. Like all inflammations of mucous membranes, bronchitis may be so mild as to be almost harmless, and yet so severe as to be almost always fatal; like peritonitis, it may be the result of certain blood disorders, and also an attendant upon the eruptive fevers. One great cause for its production will be found in chronic heart and lung affections, as well as direct chemical and mechanical irritation. The most ordinary forms of bronchitis consist in a purely catarrhal inflammation, showing itself chiefly in an increase of the mucous secretion, the epithelial cells become abnormally increased in number, and the membrane itself is swollen; if the irritation is very severe the epithelium becomes loose and falls off, and the secretion is changed from a purely mucus character to one of a puriform nature. In fatal cases of bronchitis the mucous membrane will be found to present considerable variety in its appearance; if large portions of the membrane are affected, we will find different parts exhibiting different degrees of redness, swelling and softening. The redness varies from a slight pink to a deep scarlet, and the intensity of the coloring will be found most marked in the larger tubes; the swelling will depend in a great measure upon the degree of infiltration, consequently the younger the patient and the smaller the tubes, the greater will be the danger. In many cases, as we have said, the inflammation is simply catarrhal, and runs its course without much disturbance, speedily ending in resolution. Sometimes, however, the process goes on, and we find the tubes lined with fibrinous deposit, which deposit will also be found detached from the membrane and loose in the tubes; again, we sometimes find the membrane so thickly coated as to form regular casts of the tubes. Acute bronchitis in adults of good constitution and during the earlier periods of manhood is a disease attended with little danger, for it very rarely extends to the smaller ramifications of the tubes; it is vastly different, however, with children, in whom what is called capillary bronchitis is a frequent source of the greatest anxiety. In old persons the disease again be-

comes most dangerous, for it becomes chronic, this arising from repeated and prolonged attacks of the acute form, the morbid condition producing such an amount of swelling and thickening of the membrane as seriously to interfere with respiration. If we turn once more to a serous membrane, we will find in pleurisy a disease of great interest, and one, the treatment of which has, of late years, undergone great modification. Inflammation of the serous membrane of the lung shows itself as two distinct morbid conditions; in the words of Neimeyer, "there are two forms of pleurisy, the first form merely causes thickening of the pleura and adhesion of its opposing surfaces; the second also produces thickening, but at the same time gives rise to an effusion in the pleural sac, containing more or less of fibrin and of young cells."

The causes of pleurisy, like the other inflammations we have considered, may arise from direct irritation of the membrane, as by cold or the deposit of tuberculous matter, or it may be propagated by the extension of the inflammation from adjacent organs. However pleurisy may arise, it runs through certain stages, the first of which appears to be a simple injection of its vessel, commencing in most instances of primary cases, according to Dr. Anstie in the costal pleura. The next change is the swelling and cloudiness of the membrane, and then follows the effusion and fibrinous deposit. Where the inflammation is confined to a small portion of the membrane, the effusion is for the most part fibrinous, and the disease not continuing for a long while, the two parts of the membrane implicated come together and adhesion takes place. Of course, as larger and larger surfaces become affected by the inflammatory process, the greater will be the quantity of effusion, both fluid and semi-fluid, and the process continuing, it will run on to suppuration. It is in pleurisy that we have the most perfect example of the manner in which a serous membrane extends inflammation along its own surface.

Rindfleisch, after speaking of the diffusion of inflammation over serous membranes, writes as follows: "Because of the

greater simplicity and perspicuity of the relations, we will, in the first place, direct our attention to the movements of the lungs in respiration and the friction which the pleura pulmonalis experiences from the pleura costalis. During inspiration the lung is enlarged in all its diameters, and is diminished during expiration. The rise and shape of the respective thoracic cavity is at all times correspondent to the rise and shape of the lung, it adjusts itself to it; but how do the pleuræ behave therein? While the pleura pulmonalis joins in the dilatation and contraction of the lung, the pleura costalis effects, even by folding together at the borders, the diminution of surface which the thoracic walls required by expiration. Thus it happens that both pleura are in contact with their entire surface only at the moment of deepest inspiration. If expiration begins, the borders of the lung, and with it the most extreme point of the pleura pulmonalis, glides out of the fold of the pleura costalis and slips backwards at its folding surfaces until a new inspiration commences. Like the free border of the lung, every other point of its surface, according to the measure of its distance from the stationary apex on the one hand, and the likewise stationary posterior border on the other hand, will in inspiration be pushed for a certain distance forwards and downwards, in expiration for the same distance backwards and upwards. Suppose now any given spot of the pleura pulmonalis is wet with the irritating fluid, then this place is pushed forward in commencing inspiration, and for its part moistens a yet intact part of the opposing pleura costalis. In the subsequent expiration the gliding back of a part of the pleura pulmonalis which lies anterior to the primarily affected spot, is affected by this. If it lies before the primarily affected spot, it will also be pushed further onward than this in inspiration, and accordingly infects a further part of the yet free pleura costalis; in short, in every new respiration a new zone, as well of the costal as of the pulmonary pleura, is infected. The diffusion of the irritant in this way, however, ensues in the various regions of the pleural sac with various rapidity. The

latter is almost nothing in the neighborhood of the apex and posterior border, and increases with the distance from these points, so that it is greatest towards the free borders."

Dysentery is another disease of great importance, not only as exhibiting an example of a true type of inflammation, but as showing how great things can be accomplished by carefully attending to those rules which have been given for the prevention of disease. For many centuries dysentery was amongst the most fearful scourges of men, and although still considered as a most serious affection, it certainly is not regarded with the horror it formerly inspired. The cause of dysentery in individual cases is not, as a general rule, difficult to find; but when it becomes epidemic, the real source of the danger is often very obscure.

Heubner, after detailing a large number of facts bearing on this point, says: "In view of these facts, we must conclude that the cause of an epidemic of dysentery depends on a combination of various circumstances; a certain climate, a certain temperature, a certain season, and finally a favorable situation. An external source of disease affecting large numbers of people, developed in this way by external agencies and spreading within definite limits, we call a miasma, and so we may call epidemic dysentery a miasmatic disease."

The changes which take place in dysentery commence in simple congestion and run on by regular steps to ulceration, then to exudation of fibrinous deposit, thus being either catarrhal or croupous. These changes, if allowed to proceed, often end in the extreme and final results of unchecked inflammation, mortification, and sloughing. As dysentery is such a common disease, I would earnestly advise those who wish to get a clear idea of its pathology, to study most carefully Dr. Maclean's article in "Reynold's System of Medicine," and the recent complete paper by Professor Heubner, in "Ziemssen's Cyclopædia," vol. i.

Having thus rapidly run over four diseases in which inflammation plays a most prominent part, it remains to consider

their treatment. Before doing so, it will be necessary to turn our attention to the standard remedies for inflammation, and see what is taught concerning the manner in which they act. The first remedy to be mentioned is cold; the beneficial effects of cold in the treatment of inflammation is, at the present day, fully recognized by every one. We are indebted to surgery for a demonstration, almost exact, of the power of cold, not only to control, but to arrest inflammation. The application of cold as a remedial agent is very extensive; for it can be used in a variety of ways and for a variety of purposes—as a sedative, as a stimulant, and as a tonic. The action of cold in the control of inflammation is due to its power of causing the capillary vessels to contract and the tissues to shrink. The manner in which, as a result of its action, it produces contraction of the capillaries, like a great many other physiological questions, may be accounted for in different ways. I believe, however, the great sympathetic nervous centres, the centres causing the explanation of Claude Bernard, that it acts by exciting a contraction of the vessels, is the most generally accepted. Practically, it makes very little difference how cold may act; that it does, is enough. If physicians, before they employ remedies with confidence, wait until their physiological action has been thoroughly investigated and accurately determined, many of our best remedies would be put aside. I do not mean that it is not our bounden duty to study most carefully the physiological action of medicines; on the contrary, nothing will tend more to give us a reasonable assurance of the value of drugs, than being able, in all cases, to state what the action of a drug will be, and to find that it does bring about the results we anticipated, and by the method we had announced. But we well know that some of our most trusted drugs, so far as anything like a satisfactory explanation of their physiological action is concerned, remain wrapt in Egyptian darkness, and persistently refuse to disclose their mysterious secret to any physiologist or chemist who has yet knelt before their shrine, and like many a saint, earnestly plead for but one glimpse of

the hidden truth. The question for physicians to ponder is no longer the value of cold in inflammation, but why is it that this powerful remedy has been left almost entirely in the hands of the surgeon? This will be more fully alluded to when we come to take up the special treatment of the diseases we have mentioned.

Just about the time of my graduation, the great fight against antiphlogistic treatment of inflammation had been fought and won. Blood letting, as a remedial agent, had, it was supposed, received its "Waterloo defeat" on all sides. The air resounded with the triumphant shouts of the victors; and if here and there one of the "giants in those days" refused to acknowledge that, for the greater part of his life, he had treated disease on erroneous principles, he was silenced by an appeal to a long column of figures, or soothed by the assurance that there had been a change in the type of disease. The hero of the hour was Professor Bennett, of Edinburgh, and for a while he almost shared the gratitude and admiration of medical students, with Thomas Watson, of King's College, London.

To return, the therapeutical teaching of Watson appears to some of the present day a simple impertinence, while to others it only serves to show that even a great name can not retard the progress of science. No one who opens the pages of Watson for the purpose of seeing what advance has been made in medicine, can fail to realize how genuine and true is that graphic description of Macaulay, in which he tells us what were his feelings when he undertook to review the writings of Sir James McIntosh. It has been permitted to few men to obtain and hold such a place in the affections of the Profession as has been granted to Watson. And we know that no one rejoices more than he does to see the truly gigantic strides of modern medicine, or is more ready to acknowledge the great advance in modern therapeutics. Watson can never become obsolete; the masterly, because truthful, descriptions of disease, as drawn by his hand, will ever remain; and the physician who does not know what Watson taught, must be content to

take his place alongside of the theologian who never read St. Augustine, or the poet who is ignorant of the mighty creations of Shakspeare. Watson, in common with many distinguished men, believed in a change of type in disease*, and as this doctrine has a most important bearing on the use of bleeding, it must be carefully considered. It is not pretended by those who hold to this view, that organic disease affecting the form and structure of the different tissues and organs has changed; they will readily acknowledge that an apoplectic clot is the same now as it was one hundred years ago, and that a diseased mitral valve would have presented the same appearance to Hippocrates or Galen as it does to-day to Dr. Wilkes or Dr. DaCosta. They are only unwilling to allow that the test of all good treatment should rest exclusively upon pathological or anatomical changes, or the behavior of acids and alkalies in the laboratory of the chemist. The idea that men like Alison, Watson, and Christison, could not be instructed in the physiology and pathology of the present day, is one they would be foremost to reject; but that these gentlemen saw disease and described it, their descriptions, as far as the outward manifestations of disease went, were not accurate and correct, is what very few will undertake to affirm. That it is the almost unanimous testimony of the great physicians whose career embraced the first and second quarters of the nineteenth century, that disease has changed its type, is a fact which I think does not admit of doubt. I can not stop here to enter into the argument on both sides. Even if I did, it would be superfluous, for it is accessible to all. I was brought up to a different belief, but my own observation during the past fifteen years has convinced me of my mistake. I assume, then, that disease does, at different times, show itself under decisive outward forms, well known as sthenic and asthenic.

Dr. Richardson, of London, has given us an excellent description of the physiological effects of venæsection. He writes:

* See on this point the recent Lectures on Fever by Dr. Stokes. "Medical News and Library." 1875.

"We may sum up the physiological effects of abstraction of blood under a few heads. There is, firstly, modification of the balance of the circulatory and respiratory systems; secondly, influx of fluids into the venous reservoir from the tributary supplies; thirdly, hydration of the colloid fibrine and dilution of the saline parts of the blood leading to tendency to separation of fibrine; fourthly, syncope; fifthly, convulsion of the muscles from removal of nervous control, with retention of the muscular irritability; and sixthly, decline of animal temperature." ("Med. Times and Gaz.," December 17, 1870, and "Braithwaite's Retrospoct," July, 1871).

Now, if we consider carefully that, according to Dr. Richardson, the first effect of bleeding is the modification of the circulatory and respiratory systems, we will, I think, find a good reason why the remedy is not used in the earlier stages of an inflammation. In many genuine inflammations, if of small extent, we have very little or even no disturbance of the circulation or respiration. We find again that in some cases where most important organs are gravely involved in what we know to be the inflammatory process, we may have very little disturbance shown in the action of the heart and lungs. This is seen in some cases of pneumonia and bronchitis, and well marked in dysentery and Bright's disease. To Neimeyer we are particularly indebted for pointing out clearly under what circumstances bleeding may be called for in inflammation. I think his teaching can be correctly stated as follows: The indication for bleeding depends upon the extent of the collateral œdema surrounding an inflamed area.

Before leaving this subject, it will be necessary for me to state, that while I hold to a change in the type of disease, if asked whether I believe this change has been accompanied with change either in the inflammatory process or the physiological action of blood letting, I answer, no; the change in type has, for its effect, this result, that patients can not bear now, as they once did, and will do again, the action of a remedy which, under all circumstances, is spoliative in its nature. That in

many cases of inflammation, both the circulation and respiration are greatly disturbed, is evident, and that remedies whose effect is to reduce the heart's action, are attended by good results, is also very evident. It makes very little matter whether we allow or not that such remedies put a stop to the primary inflammatory action; that they effect its course and results, I think will be granted. Now, if we can find a class of remedies whose effect will be to reduce the heart's action without having the spoliative effect of blood letting, it is supposed that they must be exceedingly useful in just such cases as in old times called for venæsection. We are taught that we have found such remedies in tartar emetic, veratrum viride, and aconite. Some will, no doubt, think that I should mention digitalis, but I fully agree with Professor Stillé, when he says: "At one time a great deal was written about the antiphlogistic power of digitalis, and especially by the disciples of the Rasorean School. The founder of this sect was warmly eloquent in favor of the marvellous powers of the medicine in diseases of a purely inflammatory type, and especially in those of the chest. * * * * It is unnecessary to cite the favorable opinions which have been uttered and reïterated respecting the virtues of digitalis as a remedy for inflammation. They are totally unsupported by direct evidence or even analogical proof."

As I do not intend at this point to advance any opinion as to the value of this class of remedies, I shall simply give the views held in regard to their action.

Tartar emetic has enjoyed a reputation for the treatment of inflammation inferior only to blood letting. The physiological effect of this remedy of late years has not been studied with the care and accuracy of either veratrum viride or aconite. Its recognized effect appears to be, when given in small doses, a marked but not very great diminution of the heart's action, and an increase in the action of the skin, causing decided, and in many cases, copious perspiration. Whatever other effects tartar emetic may have, the two just mentioned are the ones we seek to obtain when we use the medicine in fever and in-

flammation. Veratrum viride should be of peculiar interest to the physicians of my native State; for, in the words of Professor George B. Wood, "Dr. William C. Norwood, of Cokesburg, S. C., deserves the credit of having aroused the attention of the Profession to the subject, and of having thus given much greater extension to the use of the medicine than it ever before received."

Those of us who, at the meetings of the State Association, have heard Dr. Norwood contend earnestly and eloquently for the value of his favorite remedy, will grant that although some may differ from him, all must acknowledge that he thoroughly believes what he says, and therefore is fully entitled to the high praise belonging to those who seek to advance the interest of our noble Profession. The prominent effect of veratrum viride is its reduction of the heart's action; the pulse, as counted by the radial artery, falling from 70 or 80 to 40 or 50, and even lower. This reduction is such a constant phenomenon in the exhibition of the drug, that we can affirm, with almost certainty, that whenever the drug is administered, this effect must be anticipated, and must follow. Nausea and vomiting are often at the same time produced, but not necessarily, as is shown in the case mentioned by Professor Percy, who stated that he saw the pulse reduced to 30 without nausea. The drug will also at times produce convulsions.

The following experiment by Dr. Oulmont gives a very good idea of the action of this drug, the preparation used was the resin of veratrum-viride entirely deprived of its veratria, a portion of this was injected into the thigh of an active rabbit. "Before the experiment the pulse was 230; respiration 92, and the temperature 39½° C. In one hour and thirty-five minutes the pulse had fallen to 200; the temperature to 34° C. The animal was exceedingly feeble and lay on its side, it could neither stand nor walk. The breathing was difficult and sighing; thirty-five minutes after the pulse was 140; the temperature 33°; the respiration was sometimes hurried, sometimes very slow—nine per minute. After an interval of one

hour and ten minutes the pulse had risen to 180; respiration 24; temperature 32⅔°. The breathing was easier, but the animal lay on his side without motion; shaking him caused slight convulsive motions, during which he seemed about to die; he could neither sustain himself upon his paws nor his belly, but fell over on his side. Four hours and a half later, the condition was the same, but the temperature had risen to 34¾°. Eighteen hours afterwards, nearly thirty-six hours after the first injection of the poison, the animal seemed dying; the beat of the heart was feeble; the pulse 120; respiration 36; temperature 26½°. The animal was brought near a stove, wrapped in warm covering, and gradually recovered."

In his recent most valuable work, Professor H. C. Wood, writes of the active principle of veratrum viride as follows. "The circulation is profoundly affected. The pulse is generally, if not always, lessened in frequency, provided the animal be kept quiet. When there are convulsions, or even when the tremors are marked, it becomes very rapid. The arterial pressure is greatly lowered, falling progressively from the beginning to the end of the poisoning. The force of the original beat appears not to be much altered at first. It has not yet been experimentally determined exactly how viridia depresses the circulation; but, as I have found that previous section of the vagi does not influence the cardiac action of this alkaloid, and that when it is placed directly upon the heart of the turtle, it acts at once and powerfully; the probabilities are, that it influences the heart itself, or its contained ganglia. I am not acquainted with any experimental facts showing how the drug effects the vaso-motor nerves; the probability is, that it paralyzes them, but actual proof of this is wanting."

Kölliker teaches (see Dr. Sydney Ringer) that veratria excites the medulla oblongata and spinal cord, producing slight transient tetanic convulsions; that it directly affects the striped muscles, paralyzing them; but that probably it does not affect the brain, the sensory, or motor nerves. Also, that it paralyzes the heart by its direct action on that organ, and not through

the pneumogastric nerve; for after destroying the functions of this nerve by curare, veratria will still paralyze the heart. Dr. Sydney Ringer himself says: "Veratrum has been compared, on the one hand to digitalis, on the other to aconite. Like digitalis, it is said to strengthen the contractions of the heart, and to weaken them only when the dose is excessive. The properties of veratrum appear to be more allied to those of aconite." Aconite is a remedy of which we have the most conflicting statements, and the importance of the drug only serves to intensify the interest in the study of its action. It has been thought that this class of remedial agents acts through the vaso-motor system, and that the key to the mystery might be found in such words as those of Dr. Bence Jones. In his Lectures on Pathology and Therapeutics, Dr. Jones writes as follows (p. 7): "Another example is seen in the vaso-motor nerves. Both Bernard and Schiff consider that these are of two kinds—the one set closing the vessels, and the other set of nerves opening them. When closed the blood is stopped; there is paleness and coldness, and no effusion of parenchymatous fluid; when opened there is increased flow of blood, redness, and higher temperature, and increased exudation from the capillaries. In other words, the mechanical and thermal actions in the body are regulated by the nervous force acting on the heart and blood vessels." Professor H. C. Wood tells us that there are facts showing that aconite does not affect the vaso-motor nerves, and that this conclusion is confirmed by the experiments of Böhon and Wartman. In whatever way aconite may act, it is certain that it reduces both the force and frequency of the circulation. I will give the following long quotation from Dr. Ruth, of Aberdeen. (B. R., July, 1868): "In my last paper I stated that medicines, viewed in relation to their effects on the blood vessels, might be divided into two classes—the first consisting of those which merely induce contraction without subsequent dilatation, the pure astringents, acting chemically on the tissues; and the second, much the larger class, comprising those whose primary action of contrac-

tion (stimulation of sympathetic) is followed, sooner or later, by a corresponding dilatation of the vessels (paralysis of sympathetic). Passing by the former for the present, we find that the second class, those possessing the afore-mentioned double property, may be divided into two sections: 1. The medicines whose primary stimulating action in the sympathetic (contracted vessels) is prolonged and decided, and whose influence must be partially or wholly removed before reäction takes place (dilated vessels and paralysis of sympathetic). 2. The medicines whose primary action of spasm is momentary, scarcely, if at all, perceptible, though intense, and is followed, during the continuance of their influence, by a very manifest and decided dilatation of the blood vessels (paralysis of sympathetic). Cold is an example or type of the one class; heat of the other. Perhaps the greater number of drugs belong to the latter class, manifesting considerable variety in the intensity and duration of their temporary stimulant action in the sympathetic, but resembling each other in the shortness and comparative imperceptibility of the stimulus. Aconite, on the other hand, is an example of the former class of medicines. The analogy between its poisonous action in the system and the effects of cold are very striking. The prolonged contraction of blood vessels with the numbness characteristic of cold, when applied to the body, have their counterpart in the phenomena exhibited by aconite. * * * * * The chief brunt of aconite falls on the nerves of the heart. When taken internally, although other organs of the body come under its influence, its main action is upon the centre of circulation. If we could suppose Dr. Richardson's ether spray directed in the heart, it would give a fair idea of the effect of aconite upon that organ. Its mode of operation seems to be to cause excitement of the cardiac plexus, with consequent contraction of the blood vessels supplying the tissue of the heart. There is a diminution of blood in, and a decrease of the vital properties of the organ. Its pulsations become less frequent, and may fall as low as forty per minute. The surface of the body becomes

cold; there are rigors, shiverings, cramps, denoting defective circulation in the system. The general condition of the patient in this state resembles the collapse of cholera. The sympathetic system is in a state of excitement, and the blood vessels in a state of contraction."

In regard to the therapeutic value of aconite, I will give two high modern authorities. Dr. Sydney Ringer says: "Aconite is to be the most esteemed for its power, little less than marvellous, of controlling inflammation, and subduing the accompanying fever. It will sometimes at once cut short an inflammation. It will not remove the products of inflammation, but by controlling the inflammation it prevents their formation, so saving the tissues from further injury. It is therefore in the early stage of inflammation that this plant is conspicuously serviceable; still, although the disease may have advanced to some extent and injured the organs by the formation of new and diseased products, yet while the inflammation is extending aconite does good."

Professor H. C. Wood writes thus: "Our knowledge of the physiological action of aconite, imperfect though it be, is sufficient to show that there are only two or three indications to meet when it may be used. The first of these is to lower arterial action, and often with it excess of temperature. For this purpose aconite is invaluable."

I have one more remedy to consider, and it is "nomen venerabile clarum" calomel. The power of mercury over inflammation is one of those medical beliefs so rooted and grounded in the professional and popular mind, that to call it in question will appear to many simply absurd. In my next and concluding article, I shall endeavor to give it all the really serious attention it deserves. I have endeavored so far to lay before my readers a synopsis of inflammation and some account of four diseases in which inflammation is a prominent factor, with a statement of the action of those remedies used in the treatment of inflammation. It remains now to take up the treatment of the diseases I have mentioned, and to draw such les-

sons from this study as may seem most appropriate, remembering always what has been said by one of America's most distinguished physicians: "All that society can claim of medicine in any generation, is the capabilities of the medical science in that generation. All that society can claim of physicians, is that these capabilities shall be understood and judiciously applied."

ART. III.—THE TOXICAL, ANTIDOTAL, AND ANTAGONISTIC PROPERTIES OF OPIUM AND BELLADONNA CONSIDERED, WITH TWO CASES OF POISONING BY OPIUM, AND ONE BY BELLADONNA. By J. P. THOMAS, M. D., Pembroke, Ky.

During the course of the winter of 1858–9, my attention was attracted to the probably opposite physiological properties of opium and belladonna, simply from the well-known fact of the power of one to contract and of the other to dilate the pupil. This fact suggested the idea that possibly the one might prove an antidote to the other, and vice versa. If there had ever been anything written on the subject, or such an idea advanced by any one up to that period, I was not aware of it, which ignorance, on my part, may be easily accounted for, for the reason that I was a student of medicine at that time, attending my first course. With this (to me original) idea, I carefully experimented on some cats and puppies. I would administer to these animals tincture opii to full narcotism, and by repeated doses of tincture belladonnæ restore the animal to perfect consciousness. After several experiments with opium as the poison, and belladonna as the antidote, I administered belladonna until all the peculiar symptoms of poisoning by this drug were present, in fact, to a point, that without an antidote it was evident that death would rusult, and then with full doses of laudanum every case was restored to life.

I explained to my professor of materia medica my ideas on the antagonistic properties of the two drugs, together with an

account of my experiments, all of which he seemed to treat rather indifferently, as I thought at the time, but which was evidently not the case, as appeared a few days afterwards. He was called to treat a little child poisoned by an over-dose of laudanum, and after a persistent trial of all the ordinary means, as coffee enema, switching, etc., etc., he concluded to try tincture belladonna, and gave it in five-drop doses, repeated frequently, and was rewarded with success. He afterwards, when lecturing upon these drugs, mentioned the case of the little child and its treatment by belladonna, and gave me credit for the suggestion at the time.

I have since seen several articles in the medical literature of the day on the subject, and it may have been known prior to 1858; consequently this article is not written for the purpose of claiming any priority or originality for its author, but solely for the reason that there are very few members of the Profession (judging from observation, both in the practice of my confreres and the reported cases of opium and belladonna poisoning appearing in the journals) who fully appreciate the—as I may say—specific properties of the two drugs under consideration. A desire to draw attention more fully to this subject is the principal reason for writing this article.

When carefully noted, the physiological and toxical phenomena are certainly very different. Belladonna producing fullness of the whole circulatory system, and especially that of the brain; dullness of intellectual faculties; dilatation of the pupil; dryness and stricture about the fauces; pain in the head; a sort of vertiginous, or, as some have compared it to the writer, like threatened apoplexy; dimness of vision; flushed face, and turgid condition of head and face, with congestion of conjunctiva; difficult deglutition; most generally wakefulness; considerable increase of urinary secretion; seldom any action of the skin; almost invariably a deep scarlet eruption on surface; often griping pain in bowels, with diarrhœa; in fact, symptoms indicative of general irritation of the whole mucous tract; often delirium. So it will be seen that

the effects on the iris is not the only difference. Belladonna, it is true, like opium, suspends the secretion of the salivary glands, but it acts more especially on the fauces, producing stricture and a burning sensation in the throat. That is not the case with opium, also producing almost invariably a rash upon the skin (the scarlet fever of the homœopaths) unaccompanied by pruritus; while opium causes the pruritus without the eruption, opium may for a short time produce a sensation of fullness in the brain; but this is slight and only temporary, and is followed by a feeling of ease, with an expansion and increase of the intellectual faculties, with gradual contraction of the iris, a decrease of the cerebral circulation, a paleness rather than flushed condition of face; no difficult deglutition, except from extreme degrees of mouth and fauces. As a general thing, sleep supervenes with excessive action of skin and a suspension of the renal secretion; bowels quiet and constipated rather than otherwise; no irritation of alimentary mucous membrane, as it will, and does, allay irritation, and even inflammation of this membrane.

From this summary of their effects upon the organism (and they are well known and have been often observed by every observing practitioner of medicine), it will be seen that they are necessarily antagonistic, and consequently antidotal. One is as much a specific for the other as preparations of cinchona are for intermittents.

Having within the past year treated two cases of opium poisoning and one of belladonna, I will give a brief history of these cases, by way of illustrating my views.

CASE I.—On September 8, 1873, 10 A. M., was called to see Mr. H.'s little boy, aged two and a half years, of whose case the mother gave the following account: About 7 P. M., the preceding day, she had administered to the child a dose of quinine, as she supposed; the patient having chills, she placed him in bed, and then gave her attention to household matters; at bedtime the little fellow was sleeping well, and no further notice was given the child until breakfast was ready the follow-

ing morning, when she endeavored to wake the sleeper, but all her efforts proving useless, she became alarmed, and called the father in from some out-door work, who immediately sent for a physician, a mile or two distant, who, on examination, pronounced the case hopeless, but told them to keep cold cloths to the head, and if the patient would retain it, to give an enema of strong coffee, and left. Finding the sphincter so relaxed as not to retain the coffee, they sent for me; I found the little patient apparently as Dr. —— had stated—in a hopeless condition, from the effects of morphia, the mother having given a dose of morphia prepared for the father. Deep coma, pulse just perceptible, respiration about eight or nine per minute. As a test, I applied strong ammonia to nose, but without effect; placed eight drops tinct. belladonna on tongue, and tried every means to get patient to swallow. Failing in that, after two or three repetitions of the dose, I gave, by hypodermic injection, six drops of the following prescription.

℞—Atropia, gr. i.;
Aqua, ℥i.;
Acidum Aceticum, q. s. M. fl. sol.;

which was one-eightieth of a grain, and repeated in thirty minutes, when there was slight dilatation of the pupils. At the expiration of an hour the dose was repeated, pupils gradually dilating. In about five hours patient could swallow, when the tincture was given in five or six-drop doses at intervals of an hour, continued up to 12 o'clock at night, when patient was so far recovered as to require no further treatment.

CASE II.—A colored child, aged eighteen months, to which the mother had given one-half teaspoonful of laudanum for paregoric—the condition was about the same as the first case—perfect inability to swallow, etc. Gave five drops of same solution by skin, repeated every half hour until dilatation of pupil was distinctly perceptible. Increased time to one hour. After the sixth dose the patient was sufficiently conscious to swallow, when four drops of the tincture were administered per orem every hour until recovery.

CASE III.—A case of poisoning by the tincture of belladonna, about June 1, 1874. A lady patient of mine, who was under treatment for long-standing disease of the uterus, complicated with excessive leucorrhœa and general neuralgia; neuralgia attacking stomach, bowels, uterus and its appendages, together with cranial and facial. I have seen and treated many cases of neuralgia, but never witnessed such intense suffering in any case before or since. She had been under my care for about two years. The uterine troubles were all cured; no neuralgia for several months, except cranial and facial, for which she had been taking tincture of belladonna in thirty-drop doses, which only produced slight fullness about the head, with some dilatation of iris. She had discontinued the belladonna for some months, and had been taking strychnia, iron, quinia, with hypodermic injections of morphia, to relieve the paroxysms, when my attention was called to a sort of anæmic condition of the brain, by the patient complaining of a fainting and light feeling about the head. There was evidently a diminished supply of blood in the capillary vessels of the brain. She also had constant pain in the occipital region extending down the cervical, for which I prescribed tincture of belladonna in doses of twenty drops, increased gradually, if necessary, to fifty. The latter, a dose she had often taken, producing only the characteristic symptoms of the drug, but within physiological bounds. After taking two doses of thirty drops each without relief from the pain or any diminution of the "queer feeling" about the head, she poured a quantity from a bottle into a glass, what she supposed to be about a teaspoonful, but it must have been over two. In one and a half hours her face was flushed and swollen, fauces dry, and almost blind. When I was sent for in haste, about two hours after the dose was taken, I found patient totally blind, face flushed to scarlet, eyes turgid, pupils dilated, throat sore and swollen, deglutition very difficult, delirium and hallucinations, with occasional outbursts of laughter, extreme nausea and attempts at vomiting, mouth and jaws spasmodically affected. A large

dose of ipecac, combined with tincture of lobelia, was immediately administered, but without producing emesis. Patient soon fell into a state of lethargy, with a total inability to swallow, when one grain sulphate of morphia was given hypodermically, and repeated in thirty minutes, after which pupils began to contract. The morphia was continued at intervals of an hour, until five grains were given (it is proper to state that the patient was accustomed to the use of morphia); when, notwithstanding the amount of morphia taken, the patient was perfectly conscious, when aroused, but very drowsy; could be easily aroused, however. The morphia had so far regained the mastery over the belladonna as to contract the iris much under its normal size. Patient was now watched, but allowed to sleep quietly, which she did, under the influence of the morphia, for about eight hours, when she awoke perfectly rational and natural, having no pain in head or neck, and with a more comfortable feeling about the head generally.

I find no remedy equal to belladonna in this condition of the brain, designated anæmic, where the capillary circulation of the cerebral tissue is deficient or weak. This drug, given so as to produce its peculiar effects upon the system, will almost invariably produce a revulsive tendency to the brain. The modus operandi of its action in this respect is all theory, of course, but it certainly, however, acts through the nervous centres; it may act by rendering these centres less susceptible of irritative impressions, and cause them to be incapable of transmitting irritative action. It is also certain that it is equal to the task of operating on the peripheral sensitiveness or sensibility of the nerves, and consequently producing the same insensibility at their extremities as at their centres, as witnessed by the stimulation given the capillary circulation through or by the excitation produced on the peripheral nerves by the administration of this drug in cases of anæmia of the brain, or that condition the opposite of hyperæsthesia. As a consequence of this action upon the nervous centres and their extremities, it is unsafe to give belladonna in any

cases of active congestion or inflammation, it being contra-indicated in all cases of inflammation, in whatever organ or tissue. Belladonna is more stimulative than sedative; in fact, I believe it is almost destitute of sedative properties. From a somewhat more extensive observation of its action on the system, when it appears to produce, as it does seemingly, when given in large doses, a sedative effect, I am satisfied it is only a congestive condition, produced by the remedy itself, as it is capable of producing intense congestion of the brain. But whatever its mode of action may be, I will have accomplished all I hoped for if I have succeeded in inducing any member of the Profession to try it, even in those cases of poisoning by either drug where other means have failed. The antagonistic properties of opium versus belladonna et belladonna versus opium.

I am fully aware of the fact, that I have advocated for belladonna an action or effect upon the organism contrary to the general opinion given by authors on materia medica and entertained by the Profession generally—viz., as to its congestive action upon the brain. I am well aware it is often prescribed by the best medical authorities as anti-congestive, and is so used by the homœopathist constantly, but by him consistently with my theory—i. e., similia similibus. If there is congestion, a remedy producing it will remove it.

ECLECTIC DEPARTMENT.

"Carpere et colligere."

ART. I.—TRISMUS NASCENTIUM. By PHILIP A. WILHITE, M. D., of Anderson C. H., South Carolina.

Many years ago Dr. J. Marion Sims, then of Montgomery, Alabama, now of New York, published in the "American Journal of the Medical Sciences" (April, 1846, July, 1848, and Oc-

tober, 1848) three remarkable papers on trismus nascentium, which at the time attracted great attention both at home and abroad. His views in regard to the pathology and treatment of this disease were novel and original; and were sustained by facts and arguments of a most convincing character. Yet they have not been accepted by the Profession at large; and the medical men of the present generation are in the main ignorant of his teachings. These papers made a profound impression upon my mind; for I had seen several cases of trismus, all dying, and I was ready to grasp at anything that promised success.

Dr. Sims contended that trismus nascentium was not traumatic tetanus, as had always been supposed, but "that it is a disease of centric origin, depending upon a mechanical pressure exerted upon the medulla oblongata and its nerves; that this pressure is the result, most generally, of an inward displacement of the occipital bone, often very perceptible, but sometimes so slight as to be detected with difficulty; that this displaced condition of the occiput is one of the fixed physiological laws of the parturient state; that when it persists for any length of time after birth, it becomes a pathological condition, capable of producing all the symptoms characterizing trismus nascentium, which are instantly relieved, simply by rectifying this abnormal displacement, and thereby removing the pressure from the base of the brain."—*American Jour. Med. Sciences*, July 1848, p. 59.

Dr. Sims contended that the inward displacement of the occiput, which always existed at birth, was kept up by the dorsal decubitus, whether in the cradle or in the mother's lap; that the symptoms of trismus were the result of this displacement, and that the lateral decubitus was sufficient to relieve the displacement and to cure the disease.

I was completely captivated by a theory so simple and so plausible, and I at once determined to investigate the subject from his stand-point, if an opportunity should ever offer again. I did not have to wait long, for soon after I read Dr. Sim's first paper I was called to my first case.

CASE I.—It was a male child (white) twelve days old. There was nothing unusual in the labor, and the child was well and hearty till the seventh day, when it began to complain, and for five days it had not been able to draw the breast "to do any good," and the mother thought it would certainly die of starvation. From having been fat and plump it had in five days become very thin. It lay in a cradle on its back most of the time. Its left arm and leg seemed to be paralyzed, and yet they were occasionally affected with spasmodic jerks. It was evidently a case of incipient trismus, or trismoid, as Dr. Sims designates the disease in its mildest form. There were no clonic spasms, and yet there was no doubt as to the character of the disease. I raised the child from the cradle and examined the head, and found the occiput displaced inwardly, the edges of the parietal bones overlapping those of the occipital along the line of the lambdoidal suture.

Having seen cases like this before, in the same stage, all dying, I determined to treat this one according to Dr. Sim's plan. I gave the child no medicine whatever, but I placed it on its side on a pillow, and allowed it to lie there about thirty minutes. I then changed it to the opposite side for thirty minutes more. I omitted to mention that for the five days of its illness it slept but little, and was whining and crying all the time. When I placed it on its side, all these symptoms of distress ceased, and it rested quietly. With this hour's experiment of the lateral decubitus, I requested the mother to apply the child to the breast. She did so, and it seized the nipple, and, to the surprise of all present, it sucked with the greatest avidity, and from that moment it was well.

As before said, Dr. Sims describes two forms of the disease, trismus and trismoid, or acute and chronic. And, according to my observation, this distinction is correct.

The first symptom of trismus is inability to suck. This, Dr. Sims says, is pathognomonic of the disease. The child loses the power of seizing the nipple; and if the nipple should be forced between the jaws, it has no power of suction. The child

seems to be indescribably distressed, moans, whines, cries, is colicky, sometimes has griping passages from the bowels, is restless, uneasy, sleeps badly, has borborygmi, slight spasm of one or both upper extremities, then tonic rigidity of the whole muscular system with clonic spasms, which come on at intervals, and are often excited by the touch or a noise. The expression of countenance is very peculiar, and can never be forgotten when once seen. The acute form terminates fatally in two or three days, sometimes in less time; while the chronic or milder form of the disease may continue for weeks and even for months—the child slowly wasting away to a mere skeleton, and dying of what was formerly called marasmus, which is but another name for gradual starvation.

I believe implicity in the views expressed by Dr. Sims in regard to the pathology of this disease. It is clearly due to mechanical pressure upon the brain, expended ultimately upon "the medulla oblongata and its nerves." When I see a certain set of symptoms following a fracture and depression of a piece of the skull in the adult, suddenly relieved by elevating the depressed bone, I can not help thinking that they bear the relation of cause and effect. And when I have seen in scores of instances certain symptoms characterizing what we designate by the term trismus nascentium, attended with a depressed condition of the occiput, suddenly relieved simply by elevating the depressed bone, I am bound to believe that they bear the relation to each other of cause and effect. The occiput is sometimes so slightly depressed that it is not easy to detect it; again, when the child has lain for a long time on its back in a cradle, we find it depressed to the full thickness of the bone; and again we may find only one edge of it under the parietal bone.

Sometimes a very slight depression will produce all the symptoms of trismus in an aggravated form; again, a deeper depression may produce the disease in its milder form. The dorsal decubitus and the cradle together are the great sources of evil. The method of suckling the child with the occiput resting on the mother's arm, is another factor in pushing the occi-

put inwards. The disease can be as well produced by prolonged lateral decubitus when the child's head has rested upon hard substances, causing an overlapping of the edges of the parietal bones along the sagittal suture. For further information on these points, I must refer the reader to the papers of Dr. Sims previously alluded to.

The prognosis of this disease is always unfavorable when left to the recuperative powers of nature; or when treated on any other principle than that laid down by Dr. Marion Sims and advocated in this paper.

Hundreds of children die annually of this disease, where its real nature is not understood even by the physicians in attendance.

To illustrate the principles of treatment already indicated, I propose to give the histories of a few cases out of the many that have come under my observation in the last twenty-five years. The case (I.) already related, and Cases II., III. and IV., to follow, are given from memory. They occurred when I resided and practiced medicine in Franklin county, Georgia; and in moving to South Carolina my note-book was lost.

CASE II.—Child of Mr. E. W. W., of Carnesville, Georgia, was born in March, 1851. It was a large and healthy child at birth, and remained so up to the third day, when the mother noticed that there was some difficulty about its drawing the breast, and on the evening of the fourth day it lost the power of sucking altogether. On the sixth day I was called to see it. It was lying on its back in a cradle, and had all the symptoms of a well-marked case of trismus. There were a number of old women in the room who had exhausted their specifics on the child, all of whom pronounced the case fatal. I recognized the character of the disease as soon as I saw the child. From the symptoms and the history of the continued dorsal decubitus in the cradle, I fully expected to find a depressed occiput, and I was not disappointed; for on taking the child up from the cradle I found the edges of the occiput much depressed below those of the parietal bones. I lost no time in placing the

child longitudinally on a pillow on its side, with its face turned well to the horizon, so that the weight of the head was sustained on its fronto-parietal portion. After resting in this position for about thirty minutes, I had it applied to the mother's breast, and, strange as it may seem to those who have never witnessed such a thing, the child seized the nipple and sucked vigorously; and from this time there was no return of the disease. It must be remembered that the child had not been able to suck at all for nearly forty-eight hours, and very little for twenty-four hours previously. I gave it no medicine whatever, and this wonderful change from apparent death to comparative health was effected simply by removing the pressure from the base of the brain. The child was kept on one side or the other for three or four days, when it was found that the edges of the occiput overlapped those of the parietal bones.

CASE III.—A negro child (J. H., of Carnesville, Georgia), born in the summer of 1852. At birth it was a fine, healthy child, but when about two weeks old it began to cough, became very thin, and imperfectly nourished. The cough gradually got worse, and a physician was sent for who pronounced it a case of whooping-cough. The child went from bad to worse, cough became very distressing, and the emaciation extreme. When it was four weeks old, I was consulted, and found it greatly emaciated, looking old and wrinkled, with a most painful expression of face, and the cough was very constant and troublesome, and might well have been taken for whooping-cough; but the term laryngismus stridulus will better explain it. It also had frequent colicky, griping passages from the bowels. The peculiar physiognomy of the child, with the history of the case, led me to suspect that its disease belonged to the trismoid group described by Dr. Sims. I forgot to mention that the child had paralysis of the left arm and leg. This symptom aided me in the diagnosis. On examination I found the occiput very much depressed, loose, and easily depressed upon the brain. By pressing the already depressed occiput further in upon the brain, the peculiar stridulous cough could

be produced at will. This was done over and over again, the violence of the paroxysms depending upon the amount of pressure, and the extent to which the bone was forced in upon the brain. These experiments were continued till the physician (with whom I was called) and all present were satisfied that the depressed occiput was the source of all the evil. I gave directions about the management of the case, with the full assurance that the child would recover if they followed out my prescription of the lateral decubitus instead of the dorsal. I saw the case no more; but I heard a few days ago (October, 1874), from the physician in attendance at the time I was called, that the directions I gave were followed, and that the child speedily recovered.

CASE IV.—A male child (son of Mr. U. S., of Franklin co., Georgia) was born in June, 1852. I was called to see it when it was six weeks old. The mother stated that it was a large, healthy child at birth, and seemed to thrive and do well till it was about a week old, when it became colicky, and was uneasy, restless, and crying almost all the time. The mother said that from the time it was first taken it could not suck much, that it could not take hold of the nipple, that "the more she tried to make it suck, the less it would suck." At first she attributed its inability to suck to the colicky griping pains from which it was scarcely ever free; but she soon determined that it could not take hold of the nipple at all, and she was then obliged to resort to spoon-feedings to keep it alive. In this her efforts were very little better than with the breast. The child was very much emaciated, and had paralysis of the left side, which had been noticed for some time by the mother. It had the irritable whining cry, and the peculiar expression of countenance so characteristic of the trismoid affection, that I at once examined its head, and found the occipital bone very considerably depressed below the level of the parietals.

From the history of the case, and from the present symptoms, I had no doubt that the pressure on the base of the brain was the source of all the trouble. The bones of the head were

unusually well ossified, and I thought that an operation would be necessary for the elevation of the occiput from its abnormal position. I explained to the parents the nature of the disease, telling them that death was inevitable if the occipital bone remained as it was; that we would try the lateral decubitus for a day or two, and if there was no improvement, I would operate and elevate the bone. They would not for a moment hear of a surgical operation. I gave directions for the management of the case, and requested them to send for me if they should change their mind about the operation. I saw the child no more, and it died about a week afterwards.

The following cases are reported from notes taken at the time of my visits.

CASE V.—On September 10, 1859, I was called to see the male child of Mr. I. L. S., and received the following statement. The child was fourteen days old, was strong and healthy at birth, and continued so till the eighth day, when it began to fret and cry, and seemed to be in pain, and was very restless all night. It sucked with difficulty. The next day all these symptoms were worse. It had several greenish passages, but with no relief to any of its sufferings. It went on from bad to worse until I was sent for. It could not suck at all; had great rigidity of the jaws, spasmodic jerking of the right arm and leg; had borborygmi and frequent dejections of a thin, greenish appearance, which were not in the least controlled by astringents and carminatives. It was much reduced in flesh, and had the cry and expression indicative of persistent suffering. The child had been lying on its back in a narrow cradle all the time when not in the mother's arms. I requested the mother to take it up and let me see it suck. It seemed to be hungry, but could not take the nipple in the mouth. On examining the head I found the occiput displaced inwardly to a considerable extent.

The parents and friends were greatly alarmed about the condition of the child, and had for some hours expected it to die. I explained to them that the child's condition was produced

by the dorsal decubitus, and the consequent pressure of the occiput on the brain; that it was necessary to relieve this pressure or death would take place very soon. I showed them how to place the child in the lateral decubitus, and directed it to be changed from side to side. Gave no medicine, and as I was much fatigued by a long night's ride, I proposed to go to bed and leave them to carry out my instructions. It was placed laterally on the pillow at 2 A. M. The parents protested against my going to bed without giving the baby some medicine. But I had such faith in the lateral position that I simply said, "do as I told you, and the child will soon be well."

I arose at 7 o'clock, and was greeted with the cheering news that "the baby had been sleeping soundly, and is now sucking freely for the first time since it was first taken."

I found it sucking as a healthy child should, and it seemed to be perfectly well. There was no colicky pain, no diarrhœa, and the spasms of the arm and leg had ceased ever since it was laid on the pillow. On examining the head I found that the occiput was not more than half as much depressed as it was at 2 o'clock, when first placed on the pillow. From this time the child was well, and that too without a drop of medicine. I saw the child no more till he was able to run about.

The parents were so much afraid of the recurrence of the disease that they kept the child on the pillow for an unnecessarily long time.

CASE VI.—On July 8, 1861, Mrs. A. M. A. gave birth to a strong, healthy male child, which continued well until it was about six days old, when it began to show signs of uneasiness and suffering, as manifested by fretting, whining, moaning, and sleeplessness. These symptoms gradually increased in severity in spite of all they could do, until I saw it on the 28th of the month. It was then twenty days old, and had been ill for a fortnight. It was very much emaciated, very small for its age, evidently lighter than it was at birth, and was very feeble. It slept but little; moaned, whined, and cried almost all the time. Countenance sharp and peaked; frequent dejections of a green-

ish, slimy character. It took but little nourishment, and looked like it might die of exhaustion at any moment.

This child had no spasms, no rigidity of the limbs, no stiffness of the muscles of the jaws, and no inability to suck—all of which characterize true trismus nascentium, and yet I felt satisfied that all its other symptoms could only be explained by reference to the active cause of trismoid. The child had been kept constantly in a narrow cradle on its back. This prolonged decubitus, and the fact that it was well and strong up to the usual time for the development of trismus, and that it had a group of symptoms incident to that disease, led me to examine the condition of the occiput. I found it slightly depressed. The depression would not have been recognized by a careless observer, or one unaccustomed to investigate such cases. And yet I was satisfied that this depression of the occiput was the origin of all the trouble. I had the child placed lengthwise on a pillow, flat on its side, and I directed the nurse to change it from side to side, but not to place it any more on the back. To allay the anxiety of the mother, I ordered an infusion of assafœtida to be given occasionally.

July 29*th*.—Child resting much better, and slept more during the night than at any time since it was taken ill. Ordered perseverance in lateral decubitus. No medicine.

30*th*.—Much improved; slept still better; takes more nourishment; cries much stronger; occiput gradually regaining its normal position exterior to the edges of parietal bones; continue lateral position. No medicine.

31*st*.—Improvement very marked; bowels moved less frequently; dejections more natural.

August 1*st*.—Slept very well; bowels better; no whining, but cries strongly when it cries at all; and occiput nearly normal.

From this time on it convalesced gradually, and soon got perfectly well, without any other treatment than that of position. It took only two or three doses of assafœtida, on the day of my first visit, no medicine afterwards. Before I saw it, it had been

dosed liberally with astringents, carminatives, and anodynes, without the least improvement.

CASES VII., VIII., and IX.—On March 9, 1863, at 4 o'clock A. M., Mrs. W. R. gave birth to triplets, two girls and a boy, fine, hearty, plump children, the three weighing nineteen and three-fourth pounds. There was nothing unusual in the labor, and the children were physically beautiful. But as they had not expected so many at once, sufficient provision had not been made for their accommodation; they were all laid, or rather packed, into a small crib, only large enough for one child. They were laid side by side on their backs, face upwards all the time, except when they were taken up to be suckled. They seemed to be as hearty and vigorous as children of their age could be up to 4 o'clock A. M., March 12th, precisely three days after birth, when the first indication was given that anything was wrong. Mrs. R. said that about 2 o'clock in the morning of the 12th, when she went to suckle the children, one of the girls could not take the nipple or suck, and the more she tried to make it suck the worse it got, and she soon discovered that its jaws were stiff, and that it could not swallow, for when she poured a little milk into its mouth, it would run out at the nose; that it was whining and crying all the time, and its head constantly rolled from side to side; "that its eyeballs and lids were in constant spasms, the balls rolling and jerking, and the lids snapping and squinting." And she describes it as having tonic rigidity with clonic spasms. All these symptoms grew worse. The child was never able to suck or swallow again, and it died at 4 P. M., about twelve hours after the disease was fully developed. Between 12 and 2 o'clock P. M. the other two children were taken in the same way, and with the same set of symptoms as the first. The whining cry, the nystagmus bulbi, the squinting, the inability to suck, the locked jaws, the spasms of face and extremities, were alike in all three, and the little boy died at 8 P. M., being from six to eight hours from the advent of the disease. The friends watched the remaining child all night, expecting every moment to see it pass away as the others had.

On the morning of the 13th, it so happened that I was passing the house to make a visit in the neighborhood; and not having heard from Mrs. R. and the babies since I left them on the 9th, I called to inquire after them. On entering the house I was greatly surprised to see a coffin and a gathering of neighbors, for I expected to be sent for if any emergency should arise to make a visit necessary. I was informed of the facts already detailed, and was told that the third child would soon be dead, as it had been dying all night, and that they were only waiting for it to die, so that they could bury it in the same coffin with the others. From the history of the symptoms detailed, I recognized the fact that all three of the children had trismus in the acute and violent form, and I at once asked to see the one that was yet alive. I found the child lying on its back in the crib, and in the last stage of the terrible disease that had so suddenly taken off the other two. It was so weak that it could scarcely cry, had no perceptible pulse, and, like all present, I really thought every breath would be its last. I took it up from the crib to examine its head, and found the occiput depressed to an incredible extent.

Notwithstanding the fact that the child seemed almost moribund, I stated to the parents and friends that I wished to try the experiment of the lateral decubitus. They at first objected to my doing anything at all, saying the child must die as the others had, and that it would soon be out of its misery. Mrs. R. said it had not been able to swallow for the last fifteen hours, and what was the use of worrying a dying child. However, I carried my point, and had the child laid lengthwise on a soft pillow on its side, and turned from side to side every fifteen minutes. From the moment it was laid on the side, a decided change was seen in all its symptoms, and in less than one hour and a half from the time the lateral decubitus was instituted, all spasm ceased, the jaws were unlocked, and the child sucked freely, and swallowed well. I gave it no medicine, but simply directed that lateral position should be kept up for some time, being careful to change it from side to side every hour or so.

Before leaving, I examined the heads of the dead children, and found the occiput in each depressed to an unusual degree, leaving no doubt in my mind that they might have been saved by the proper lateral decubitus if it had been tried in time.

I requested the parents to send for me if my little patient did not progress favorably. It rapidly recovered, and I saw it no more till it was eight months old, and there was not a finer child in the country of its age.

Mrs. R. informed me a few days ago (since I began this article), that the children were taken sick as they were born, that is, the first child born was the first taken, the second was the next, and these were the two that died.

CASE X.—In March, 1868, C. McL. brought his child (female) to my office for advice. It was hearty at birth, but when about ten days old it began to complain; became restless and sleepless, and whined and cried almost all the time; was colicky, and had frequent passages, which were sometimes greenish, and again thin and watery. It was now two months old, and was pale, puny, and greatly emaciated; was restless, and seemed to be in constant distress, as manifested by involuntary movements and the peculiar expression that belongs to trismoid cases. It slept only when under the influence of anodynes, and then for but a short time. It had never had spasms; it had always sucked with difficulty, though they noticed no stiffness or locking of the jaws. It was all the time licking out its tongue, as if it were hungry. Recognizing the character of the disease, I examined the head, and found the occiput clearly displaced inwardly under the parietal bones. The bones of the head were well ossified, and the edges of the occiput seemed to be impacted under those of the parietals. I stated to the father that medicine could do his child no good; that this was a case of trismoid affection, due to the pressure exerted by the displaced bone upon the base of the brain; and that it was necessary to elevate the bone. I gave him directions about the lateral decubitus on the pillow, and requested him to bring the child to me again in two or three days if it should be no better. In a week

he returned, saying he had carried out my instructions, but the child was no better, on the contrary worse; for it was weaker, and, if possible, more emaciated. I then explained to the father that the only hope of relieving the child was to perform a slight operation on the head, for the purpose of elevating the occiput from its depressed condition. But he would not hear of such a procedure, and returned home with the child, and it died about a week afterwards.

CASE XI.—In June, 1870, Mrs. A. McL. rode to my office on horseback, a distance of ten miles, with her infant in her arms, exposed all the way to the sun's rays. The child (female) was six weeks old. The mother stated that it was well and hearty at birth, but in a few days after it began to complain; that it moaned and cried all the time; was restless, and slept only when taking cordials and anodynes; that it had constant trouble with its bowels; that it was colicky, and had frequent dejections, which were sometimes green, and again clay-colored. It had not had spasms nor stiffness of the jaws. It was pale, sickly-looking, and extremely emaciated, and had the peculiar distressed trismoid expression. The usual routine of anodynes and astringents had been exhausted in this case without the least benefit. It resembled in every particular the case (X.) just described. The two cases were children of two brothers. On examining the head, I found the occiput displaced inwardly to a marked degree. The edge of the occiput on the left side was closely impacted under the corresponding edge of the parietal bone; the right was not pushed in so far, but appeared to be firmly held in its abnormal position. My opinion was soon made up that the displaced occiput was the sole cause of all the trouble, and that the ten-mile horseback ride, with the occiput resting all the time on the mother's arm, or on her knee, had greatly aggravated all its symptoms. I explained to the parents the philosophy of the lateral decubitus; gave them a pillow, and showed them how to lay and carry the child on it, and explained that I believed it would be necessary to perform an operation to elevate the depressed

bone. I told them to send for me, if their ride home did not kill the child, and I would go and operate on the bones of the head, and try to rectify the position of the displaced occiput. They did not send for me, and the child died about ten days after I saw it.

CASE XII.—On the 20th October, 1870, Mrs. A. F. D. gave birth to a female child. It was large and healthy. Its head was large, round, and symmetrical. It did well for the first twenty-four hours, after which it began to be restless, sleepless, and fretful all the time, making a distressing moaning, with occasionally a peculiar sort of unpleasant breathing. It breathed as if it had taken a severe cold. It had great difficulty in taking the nipple and sucking. The nurse was very faithful, and anxious about the child, and seldom laid it in the cradle, but held it on her lap most of the time on its back. The moaning and restlessness were attributed to colic, and she gave it repeated doses of paregoric and catnip tea, but with no benefit. These symptoms gradually grew worse; the difficulty of seizing the nipple and sucking was very great; the moaning, crying, and colic were constant, and it seemed to be in great pain. Thus it went on from bad to worse, till 11 o'clock P. M. on the seventh day, when it suddenly gave a loud scream, and went into convulsions. They gave it a warm bath, but the clonic spasms followed each other in rapid succession all night, and until I saw it at 10 A. M. the next morning (eighth day). When I arrived, it appeared to be in a hopeless condition. Power of nursing gone, tonic rigidity extreme, clonic spasms in rapid succession, and it seemed that each spasm would end its life. It was almost moribund, and was lying in the nurse's lap face upwards.

Seeing at a glance that I had an aggravated case of trismus to deal with, I lost no time in examining the condition of the head, and found the occipital bone pushed deeply in on the brain. I immediately took it from the nurse's lap, and placed it on a soft pillow, lengthwise on the side, at the same time manipulating the parietal bones, so as to modify the position of

the displaced occiput. It never had a clonic spasm after it was placed on the pillow, and in a very short time the tonic rigidity had all disappeared, and in one hour it took the breast and sucked freely; gave no medicine; left directions for a continuance of the lateral decubitus; 8 P. M. found the child well; next day the child perfectly well, without a drop of medicine of any kind; occiput in its normal position.

December 5, 1874.—I saw the little girl to-day, and there is not a finer child of her age in the county. I read the above history to the mother, and her recollection of the case corresponds exactly with my notes of it.

This article has been extended to a greater length than I anticipated; yet I feel unwilling to bring it to a close without reporting two more cases of trismoid, which were very similar, and are interesting by contrast of treatment and result.

CASE XIII.—September, 21, 1873, when casually passing a neighbor's house, I was hailed, and requested to stop for a moment, when two ladies came out to the road, one carrying an infant in her arms. Upon getting near me, one of them said: "Well, doctor, we stopped you to inquire if you could tell us what is the matter with this baby." I replied: "In the absence of the history of the case, and judging only from its age and the peculiar expression of countenance, I should think it was suffering from what doctors call trismus, or lockjaw." For it had that peculiar trismal countenance so characteristic of the disease, and which I am unable to describe, but which once seen can not soon be forgotten. I examined the child's head as I sat in my buggy, and found the occiput depressed to a considerable extent below the level of the parietal bones, one edge more than the other, and apparently closely jammed there. I explained briefly the nature of the disease, and as I was in a hurry to make a professional call further on, I promised to stop in on my return, and inquire more particularly into the child's case.

On my return I learned that the child, a female, was born on the 19th of July, 1873; that it was now two months old; that its

mother, Mrs. O. H. K., died when it was seven days old; that it was a fine, hearty child at birth, thrived, and was quite well until it was about three weeks old, when it first became restless, fretful, cried a great deal, and slept but little. It soon had diarrhœa, the movements very frequent, sometimes greenish, and at others thin and watery. It had never refused to suck, but ever since it began to complain it sucked with difficulty. It had never had spasms or rigidity of the muscles. These symptoms gradually grew worse up to the time I saw it (September 21st). It had been treated by three of the best physicians in the county without any benefit. It was thin and emaciated to a great degree. Its dejections were frequent, no medicine seemed to have any control over them. It whined and cried and moaned almost all the time, and it slept but little. I explained to the ladies and the father that I thought the depression of the occiput was the sole cause of the disease, and that I thought it might possibly be necessary to perform an operation to place the bone in its proper position. I was obliged to leave, but I requested Mr. K. to go for his physician, and tell him what I said about the case. He went to see my friend, the doctor, and laid the subject before him. The doctor advised him to go home and let the child alone, as he did not believe in any operative procedures in such cases. Nothing more was done, and the child gradually sank, and died about two weeks after I saw it.

CASE XIV.—On the 16th of October, 1873, I was called to see the child of Mr. C. M. On entering the house I discovered the object of my visit lying in a small narrow cradle on its back. It was emaciated to an extreme degree; crying, whining and moaning incessantly, and rolling its head continually from side to side. It had the peculiar characteristic trismal face. The history, symptoms and appearance of the child will be seen to be the same as those in the case (XIII,) previously related. Before making any examination of the case, I said to the aunt: "I think we have here a case of trismus;" and I then explained the nature of the disease, and told her that it depended upon a

displacement of a bone on the back of the head. Her reply was: "Yes, we have all noticed a sunken place in the back of the head for several weeks." On examination my suspicions were verified. I found the occiput inwardly displaced to a very considerable extent, pressing deeply upon the brain and firmly held in its abnormal position. I learned that the movements of the bowels were frequent and persistent, that it slept but little, that it cried, moaned, and whined all the time, day and night. As I was satisfied that it was a case of trismoid affection, I took it out of the cradle and laid it properly on its side on a pillow; and the aunt, who had been its only nurse from its birth, gave me the following history: The child, a male, born August 6, 1873, was large and healthy; labor normal. The mother died six days after its birth. The child did well and was perfectly healthy till three weeks old, when it became restless, uneasy, fretful, and cried a great deal. It had lain in the cradle most of the time on its back. It was supposed to have the colic, and catnip and anodynes were given liberally, but without benefit. The bowels were greatly deranged; the dejections frequent, greenish, and offensive. The symptoms increased in gravity, and the family physician was called in, who prescribed various anodynes and astringent remedies to relieve the pain and check the bowels, but only with temporary effect. A second physician was called in, but with no better result. The patient continued to grow worse, notwithstanding all the skill of the two accomplished physicians who had seen the case. I was called on the 6th of October. The child was then just two months old, and had been gradually growing worse since it was three weeks old. I have never seen an infant so emaciated, being literally a skeleton. It had been sick just five weeks, and, as it was pronounced to be incurable, no physician had seen it for a week, but its aunt had regularly given the anodynes and astringent remedies that had been prescribed for it. I explained to the aunt the nature of the disease, and the treatment, and the necessity of persevering with position for a day or two. I told her that the case was not hopeless, that if the

bones of the head did not soon show signs of rectification, I would puncture the scalp and raise the depressed bone up to its proper place. As previously stated, the child was placed properly on a pillow on its side, and I directed the aunt to turn it from side to side until I should return, which would be in about three days. By that time I felt confident that the child would be better if position alone could effect the change. If I should find it no better, I proposed to operate and elevate the occiput from its abnormal position. I stated that it was useless to give it any medicine; but that they might give it one grain of chloral hydrate at night to procure a little sleep, and that I thought there was no hope of its getting better until the occiput was raised and the brain relieved of its pressure. The aunt was a very intelligent woman, and followed my directions as to the lateral decubitus literally, although she had but little faith in its doing the good I promised. For the first two days and nights there was no change whatever, but on the third night the great restlessness subsided in some degree, and the child slept several hours for the first time since it was taken sick, and convalescence set in. I saw the child a few days afterwards; the diarrhœa ceased entirely, it lay quietly, no fretting, no crying, and it slept soundly, and took nourishment well. On examining the head, I found the occiput occupying very nearly its proper relative position, and the child was well without taking any medicine except two doses of chloral, one grain each on the first and second nights after my visit. But I have no idea that this exerted the remotest influences on the result, for there was no marked improvement till the third night, when the prolonged and persistent lateral decubitus began to produce its effects on the relative position of the occipital and parietal bones. The child is now a sprighly little fellow, and when thirteen months old weighed twenty-five pounds.

The similarity in these two last cases is very marked. Each lost its mother in a week after birth. Each was taken on the 21st day. Each had a similar train of symptoms. Each was reduced to the lowest state of emaciation. Each had the same

degree of depression of the occiput, and the same degree of immobility or impaction. I saw each one at about the same stage of the disease. One had no postural treatment, and died a week after my first visit; the other had the proper postural treatment, intelligently carried out, and in three days it was wholly cured.

This completes the number of cases that I shall bring forward on the present occasion. I have seen many more, but these will suffice for all practical purposes. There is such a similarity in all of them, their symptoms are so uniform and unvarying, that the repetition of cases becomes monotonous, and I feel that I have already overtaxed the patience of the reader.

I have not classified my cases, dividing them into acute and chronic, or trismus and trismoid, as was properly suggested by Dr. Sims; but I have given them in chronological order from 1851 to 1873.

In looking over these cases I find three, (5, 10, 12) of acute trismus promptly cured by position alone, three (2, 7, and 8), died without treatment before I saw them Of the nine cases of trismoid affection, five (1, 2, 3, 6, 14) were cured by position alone; and four (4, 10, 11, 13) died without treatment. The two acute cases of trismus that died without treatment would assuredly have been saved, just as their sister was (case of triplets), if the only and proper method of treatment (position) had been adopted. It is impossible to say what would have been the result of postural treatment intelligently carried out in the four trismoid cases that died.

Taken all in all, these cases seem to me to justify the conclusion that trismus nascentium is the result of mechanical causes; the predisposing causes being protracted or tedious labor, and a too well ossified state of the fœtal cranial bones. The exciting cause is undue pressure on these bones, more especially the occipital; while the immediate cause is undue compression of the medulla oblongata, and the nerves originating from it. The cases so far given are all of one general character, and all go to show that the disease is the result of

pressure exerted at the base of the brain. In all of them the pressure was produced by an inward depression of the occiput, differing, however, in degree from the slightest to the greatest possible.

I may, at some future time, resume the subject, and detail some cases of this disease from pressure on the brain by parietal displacement.

As Dr. J. Marion Sims was the first to give us a correct and rational view of the pathology and treatment of trismus nascentium, I must refer the reader to his interesting and graphic articles on the subject already alluded to. The Profession at large have not accepted his teachings on this subject. This is another illustration of the hackneyed phrase, that truth travels slowly; but the time will arrive, sooner or later, when the great truths that he announced to the world so long ago will be accepted and acted upon by all the Profession who observe and reason for themselves.—*American Journal of the Medical Sciences.*

ANALYTICAL DEPARTMENT.

"Qui e nuce nucleum esse vult, frangit nucem."—PLAUTUS.

Two Cases of Inoculation with the Septic Lochia of Puerperal Women. By William Stewart, L. R. C. P. Edin., Barnsley.—The elucidation of the nature of the poison and the etiology of puerperal septicæmia, is of such vital importance, and, at the present time, occupies such a prominent place in the mind of the Profession, that I feel no apology is required from me for bringing under the notice of the Profession the two following cases.

CASE I.—Miss G., aged fifty-two, a delicate woman, frequently suffering from hepatic derangement, and the subject of an obscure internal abdominal tumor, said to have followed a rail-

way accident, called me to see her on Sunday, October 8, 1871. I found her suffering from most excruciating pain in the right forefinger. The pain was so agonizing that I was led to inquire whether she had not scratched or injured it in some manner, when she informed me she had very slightly scratched that finger and the one next to it a few days previously. Upon remarking further that I was afraid she had received some poisonous matter into the scratch, she then remembered having given an injection to a lying-in woman on the evening of the 6th (about thirty-six hours before my visit), whose nurse was very inexperienced, and had neglected to change the patient for several days after delivery. I was informed by the medical gentleman in attendance upon the confinement, that his patient had peritonitis at the time. My patient had wrapped a piece of adhesive plaster round the middle finger, which was, therefore, quite unaffected, but unfortunately had left the scratch on the forefinger totally unprotected. Here, then, was the clue to the case, decomposing lochial discharge applied to the recent scratch. This case ran a most acute and rapid course. Thirty-six hours after the application of the septic matter, I saw the patient. The finger was then hard and indurated, but not much swollen. The back of the hand was very red and much enlarged. The inflamed lymphatics in red streaks could be seen passing up the forearm; and in twelve hours more, in spite of all measures adopted to arrest the advancing disease, the finger had mortified. The next day, her relatives being very anxious, I met in consultation two neighboring gentlemen, who agreed with me as to the cause of her symptoms; but the gangrene continuing to spread, soon involved the other fingers, hand, and wrist, and was followed by a fatal termination on the 10th, being ninety hours from the application of the poison, and about forty-eight hours from the time when I first saw the case. Throughout the short course of her illness, the general symptoms were those of high fever, persistent vomiting, and, towards the close, delirium.

Case II.—The poison in this case was introduced from a

puerperal patient in my own practice. Mrs. L., a primipara, was delivered by Dr. Heath, my assistant, on October 24, 1874. Three days afterwards, symptoms of acute peritonitis set in, preceded by decomposition of the lochia and accompanied by profuse diarrhœa, and other symptoms of blood-poisoning. Injections of Condy's fluid into the uterus and vagina were used to disinfect the discharge. These were administered by Mrs M. (her mother), who, on November 5th, two days before her daughter's death, had inflicted a slight wound with a table-knife over the first joint of her left thumb. The wound being slight, she did not consider it necessary to mention it, or to apply any dressing to the part, but continued to administer the injections without any protection to the thumb. On the 7th I found her suffering from a most violent pain in the thumb, which was swollen and indurated; the wound was gaping and sloughy in appearance, the back of the hand red, shining, and erysipelatous. A free incision on the thumb above the wound, followed in a few days by another on the back of the hand, gave exit to a large quantity of pus, and relieved to a certain extent the severity of the symptoms; but the purulent affection seemed to travel along the cellular tissue of the forearm, which in turn had to be relieved by incision. The lymphatics were inflamed as high as the elbow, where there was a patch of erysipelas. This case terminated favorably in six weeks, leaving only the first joint of the thumb stiff.

These cases appear to me to be very instructive; first, because of the danger to which attendants are exposed when it becomes necessary to give vaginal injections to puerperal patients, and I think it becomes the duty of the medical attendant to warn the nurses to take precautions not to allow the discharge to come into contact with any recent wound or abrasion of skin; secondly, they are exceedingly interesting from their tendency to throw light upon the nature and production of puerperal septicæmia, as they show that the application of decomposing lochia alone to a recent scratch or wound has been sufficient of itself to produce gangrene of the part and death of the patient

in the one case, and a very severe attack of phlegmonous erysipelas in the other, although no puerperal condition existed in either of the inoculated subjects. I think we may, therefore, draw the conclusion, that the passage of decomposing lochia over any abraded surface in the vaginal passage is sufficient to produce puerperal septicæmia without the importation of any other specific poison. In this manner, we may account for the disease attacking much more frequently primiparous cases, as the vagina and perinæum are much more likely to be slightly lacerated in those than in multiparæ. If it were possible to apply as effectually the antiseptic treatment to these cases as it is carried out by Professor Lister in surgical cases, I have lttle doubt that as good results would be obtained. Obstetricians too frequently begin to lock the door when the horse is stolen; we wait until there is evidence of decomposition having already taken place in the lochia before steps are taken to prevent or counteract the danger. Can not some antiseptic means be devised to be used from the time of delivery? I should be inclined to think that folds of antiseptic gauze instead of the ordinary napkin, and an antiseptic lotion for detergent purposes, would be of very great service, and might prove quite sufficient to prevent the setting in of putrefactive change in the discharge.—*Brit. Med. Jour.*

Croup and Diphtheria. By William Cumming, M. D., Edinburgh.—The question as to the identity of membranous croup and diphtheria is worthy of the attention it has recently received; but, I confess, I have some difficulty in understanding how the two diseases can be ranged under the same category. Many years ago I saw a large number of cases of membranous croup, and its characters were of the most pronounced kind.

1. The type was sthenic. 2. The exciting cause was atmospheric, i. e, cold and damp. 3. The treatment most successful in my hands, was antiphlogistic—viz., tartar emetic in frequent and nauseating doses. 4. It was non-contagious. I never saw two cases in one family either occurring simultaneously or in

immediate succession. 5. It was never followed by paralysis or other consequences affecting the nervous system. 6. It was limited to a certain age; never in my experience occurring after twelve years of age. 7. The membrane, as ascertained by post-mortem examinations (which were sufficiently frequent), was firm, tough, tense, and of a light kid color, and was strictly limited to the laryngo-tracheal tract, at least in its upper part, though it not unfrequently passed downwards into the bronchi in the form of plastic bronchitis. The disease never invaded the pharynx, fauces, or nose.

All who have seen much of diphtheria can not fail to remark how totally different pronounced cases of it are. 1. The type is asthenic. 2. The exciting cause is septic. 3. The treatment is antiseptic, nourishing and stimulating. 4. It is markedly contagious, and unless the most astringent precautions are taken, attacks, and proves fatal to other members of the family, or those in direct contact with it. 5. Nervous symptoms, and especially paralysis, are not unfrequent consequences, and are always to be feared. 6. It has no respect for age. 7. The membrane is ash gray, friable, in many cases almost pultaceous, and generally soft. It is seldom limited to the laryngo-tracheal tract, but as frequently as not extends to the pharynx, fauces, and nose, and often begins there, passing downwards, which membranous croup never does.

Typhus and typhoid fever are recognized now by sufficiently distinctive characters, but they are, in my opinion, not more, or indeed, so distinct, as are membranous croup and diphtheria. —*Brit. Med. Jour.*

Treatment of Chorea by Arsenic in Large Doses.—I can confirm what Dr. Eustace Smith says about the value of arsenic, when given in comparatively large doses, for the treatment of chorea. I go even further in the same direction, and say, that acute chorea may be now and then beneficially treated with this medicine. On Monday evening, March 8th, I was sent for a few miles distant to see the adult daughter of a farmer, who

was extremely ill with acute (but non-febrile) chorea, brought on mainly by over-work and irregular meals in a draper's establishment, where she had been employed as an assistant. During four days I tried various approved remedies with so little success, that I became alarmed as to the possible result of the case. The movements were incessant and most violent, nor could any sleep be obtained. On the following Friday afternoon (March 12th), I began the administration of arsenic, in a dose of seven minims and a half of liquor arsenicalis four times a day. There was scarcely any amendment until Sunday night, when she slept well, and awoke on Monday morning with her maladay virtually gone. Once or twice, the remedy has been discontinued, owing to some irritation of the bowels; but almost immediately some choreic symptoms reäppeared. She is still taking the liquor arsenicalis in a dose of six minims twice a day, guarded by a little laudanum; and a grain of powdered opium at bedtime promotes sleep. I have seen my patient to-day (May 3d), and she seems quite well in every respect.—*John K. Spender, M. D., in Brit. Med. Jour.*

CLINICAL RECORDS.

"Ex principiis, nascitur probabilitas: ex factis, vero veritas."

ART. I.—NEW OBSTETRIC FORCEPS, WITH PLATE. By W. H. NEWMAN, M. D., Denver, Colorado.

In the majority of cases of labor the process is so free from difficulties and delays that no interference on the part of the physician is necessary or justifiable. In another class (a small one) the act is, on the other hand, attended with so much difficulty that the physician must by great force pull or drag the child through the passages. In yet another class (not small), on account of the mere tediousness of the case the physician must wait until the strength of the patient is nearly exhausted

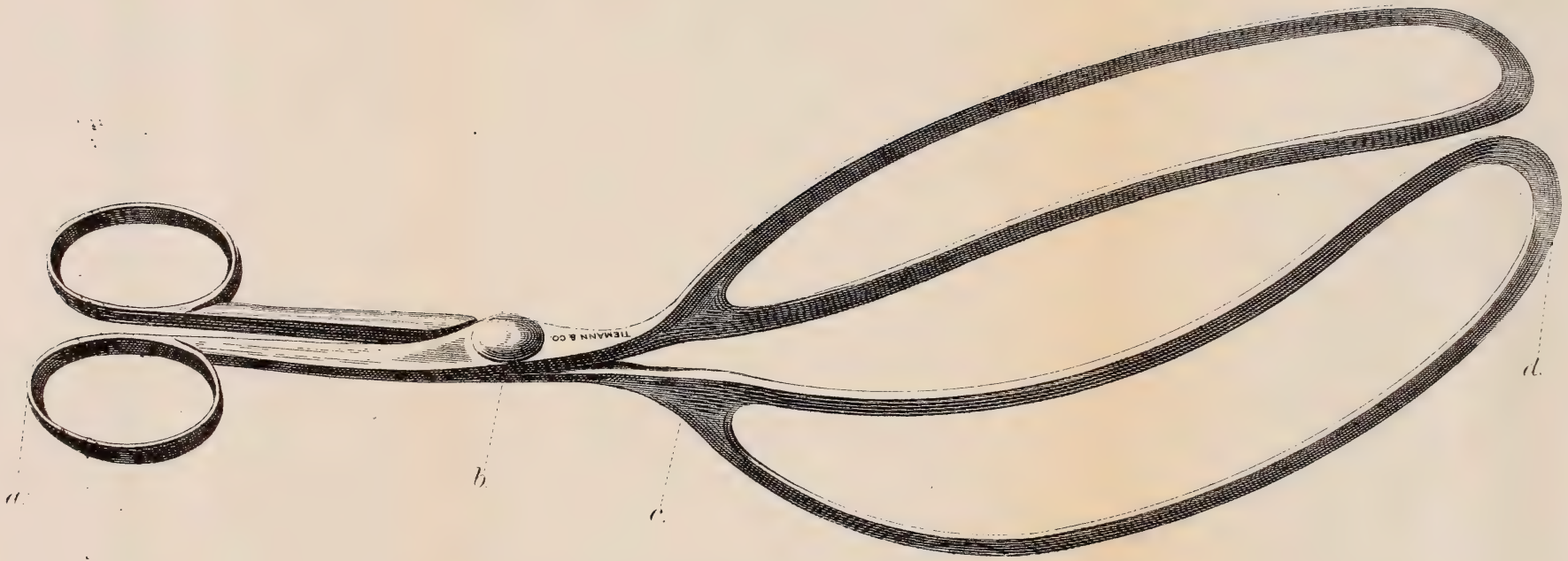
before the delivery is accomplished; cases in which it is better to wait than to frighten the patient by a resort to the ordinary forceps. The forceps here presented are for use in the tedious cases. They are not intended for use in the cases of the first class, for these require no instruments; nor for the second class, for these require a stouter instrument; but they are intended to sweep the entire field of slow, tardy, and tedious cases.

In presenting a pair of forceps for use in slow or tardy cases that would come of themselves, in a few hours, to a safe termination, I am, it may be thought, laying myself open to the charge of disregarding the old saying which has long ago become an adage, "A meddlesome midwifery is bad," but it is believed that this precept, although good in its day, even in the fullness of its meaning, should now, when the forces of labor are so well understood, be received in a much more restricted sense. Of what value is our greater knowledge of the physiology of the womb and other parts concerned in parturition, and of the nature of the accidents resulting, if this knowledge be not available in rendering the act in a greater degree easy and safe? (See lithograph plate.)

These forceps have been constructed in the belief that the direct force of the uterus, in a state of contraction in these cases, is not so great as is generally supposed, and that the aid which can be given with even these light forceps, is no inconsiderable part of the whole force required in natural cases.

These forceps are so small that they can be taken from the pocket and applied without inconvenience or embarrassment of any kind, and when applied, will enable the physician to give safe and very efficient aid. I say aid or assistance, for they are to be used whilst the patient is still able to help herself.

The blades are in length and form the same as Hodge's forceps, as is also the size and shape of the fenestra. The thickness of the blades is one-sixteenth of an inch; the width of each part of the blade one-fifth of an inch; the length of the handles (from *a* to *b*) three inches; the shank (from *b* to *c*) one


TIEMANN & CO.
a
b
c
d

and a quarter inch; the blades proper (from *c* to *d*), on a straight line, five and three quarter inches, and the entire weight two and three-fourths ounces, avoirdupois.

After a trial of these forceps, I do not hesitate to recommend them to the Profession. I think no physician engaged at all extensively in obstetrical practice should be without them. I have been amazed at the force that can be applied with these instruments; they do not bend or spring, as I feared they would; the blades lock just within the vulva, but they are easily managed by one accustomed to the button-lock.

I will say nothing more of these forceps for the present; I expect them to be fairly tested, and then assigned to the position among the implements of art that their importance will entitle them to. Every physician who has sat by a patient in labor, slow or tedious, in the second stage, must, I think, have felt the necessity for such an instrument.

PROCEEDINGS OF SOCIETIES.

"Etsi non prosunt singula, juncta juvant."

Selma Medical Society. Report of Dr. C. D. Parke, Delegate to the Medical Association of the State of Alabama. (Twenty-eighth Session; Montgomery, April 1875.) Published by Resolution of the Society, Selma, June, 1875.

Gentlemen of the Selma Medical Society,—By a resolution at our May term, it was made my duty to give some account of the doings of the late meeting of the State Medical Association, held in Montgomery in April last. And while I am sure there was no one present who enjoyed with a keener relish the inside workings of the Association, or the warm and genial hospitalities extended by the resident physicians of Montgomery, I can but feel that one who is so little accustomed to writing as myself, must necessarily fail in making my description as clear and entertaining as I would wish.

But, to begin, we left Selma at 8 o'clock A. M., and after a pleasant trip of something over two hours, found ourselves at the capital, with only time enough on our hands to make the necessary preparations for the meeting of the Association, which was called to order by the President at 12 o'clock, M.

After prayer by the Rev. Dr. H. Stringfellow, of the Episcopal Church, Dr. W. C. Jackson, on the part of the Committee of Arrangements, extended to the Association a very creditable and hearty welcome. This gave me an opportunity of looking around and taking a bird's eye view of the members present, and I could but feel grateful at the fine material of which it was composed.

Before the reading and approval of the minutes of the last annual meeting, Drs. Griggs and Kendrick, delegates from Georgia, were introduced by the President, and invited to seats; and just here I wish to say how much I was pleased and entertained by my intercourse with Dr. G., the senior delegate, a man of uncommon good sense, much reading, large experience, and a quaint and homely way of enforcing what he had to say; in short, a person who impressed me as a high order of the country doctor.

The Secretary, our own Riggs, then read the annual report, and it is a work of supererogation for me to say to this Society, to whom he is so well known, that it was full, forcible, and clear, closing with several suggestions, two only of which I can now call to mind. The necessity of establishing some secure place for the keeping of the many valuable publications constantly accumulating from various sources, and next, the appointment of delegates to represent the Association in each of our sister States.

Next, the Treasurer presented his report, showing a healthy financial condition, and however much we may regret that money is indispensable to the every enterprise, however good, still we must accept the fact, and give an approving smile when we find something on the credit side of our books.

Then followed the reading and filing of the reports of the

different County Societies, stating their condition, list of officers, health, and mortuary reports, and in some instances (in answer to the printed circular sent out by the Secretary), recommendations of those persons whom the local Societies thought the proper ones to be added to the House of Counsellors. Now, while there was no action taken at this particular time with regard to these recommendations, still, while the subject is before us, I may as well anticipate, and give you all the information I have with regard to this matter, especially as the gentleman offering the resolution requiring this paper, seemed to have an especial interest in having this subject explained.

First then, the ground was taken that the Association overstepped its constitutional powers in requiring the Secretary to send out these instructions, for when the names of the parties recommended should come before the House of Counsellors, it was to all intents and purposes a nomination, and therefore in clear violation of the organic law, which requires that said house shall be filled by ballot without nomination. Immediately on the heel of this discovery, a prominent member offered, in substance, the following resolution: "That no one who has failed to attend the present meeting shall be elected to the House of Counsellors," and, "yea verily," he gave more than one very good reason for the "faith that was in him"; but here again the constitutional lawyers present pounced upon this with renewed vigor, bringing the same objection to bear as in the previous case, and after considerable discussion the resolution was withdrawn.

It does seem to me, that up to this stage of the proceedings, the crew were making commendable and all proper efforts to keep the constitutional ship clear of the shoals and quicksands which seemed to threaten her; I now felt that an outsider, a delegate, like myself, could with all due serenity withdraw and attend to some private business which called me to two or three points in the city; on my return to the rooms at 10 o'clock the next morning, I was told that the resolution of the

leading member, which had been withdrawn the evening before, had been virtually carried out, and the only reason that suggested itself to my mind was, that in advocating his resolution, before its withdrawal, he had succeeded in convincing the House of Counsellors, who alone had the right to vote that his position was the correct one.

The afternoon session was occupied by Dr. Gaines with a paper on Tuberculosis and Scrofulosis, which this Society, when they shall have had an opportunity of reading it, will agree with me in asserting that it evinces close study, much thought, and a clear brain. It was listened to with marked attention, and at its close elicited an interesting and profitable discussion.

The Association then adjourned to meet in the court-house at 8 o'clock, to hear the President's address. On entering the room I found a large and appreciative audience of ladies and gentlemen present. His subject, "Duties Devolving on the Association by being the State Board of Health." After pointing out the great reduction in the number and fatality of such preventable diseases as cholera, small-pox, etc., by the Board, when duly organized, he dwelt at some length on its power to control that great scourge of Alabama, miasm, by a proper system of drainage, and thus the first day's work was done.

Now, gentlemen, in looking back over my description of the first day's doings, you can but see that some four hours, say from 4 to 8 o'clock P. M., during which the Association, as a collective body, had no existence, are unaccounted for, but there was nothing said or done during the meantime. I wish I could paint the scene; picture to your mind a dozen gentlemen surrounding a board spread with all that could tempt the appetite or please the senses; then call to mind the fact, that their lips were scarcely dry from that which would whet the appetite and attune the mind to the giving forth and appreciation of wit, and you may imagine something of the enjoyment of the next three hours. I am almost tempted, by way of redeeming the interest of this paper, to repeat some of the bright and sparkling speeches which were thrown off when mind met mind in

the keen encounter, but I must forbear when I call to mind that those who hear me now lack the good cheer and sparkling wine which develops the appreciative mood, which must be kept aglow by such surroundings. I will only add that each evening, from 5 to 8 o'clock, I submitted myself to this pleasurable tickling of mind and stomach with commendable patience.

The second morning, Dr. Cochran presented in lieu of his report on Public Hygiene, a very interesting and exhaustive paper on the subject of small-pox, embracing a full and lucid history of the disease, as it presented itself in its epidemic visitation of Mobile during the years 1874–5. I must say that taken in connection with the lengthy discussion which followed its reading, I have listened to few papers from which I derived greater profit.

At night the assembled audience of ladies and gentlemen was addressed by Dr. Ketchum (the regular orator, as well as his alternate, being absent). Subject, "The American Code of Ethics." He took occasion to read the code verbatim; and I am sure you will forgive me when I confess that the aforesaid reading, in conjunction with the good cheer I had just enjoyed, carried me safely to the land of Nod, so for the many good and eloquent things his address was said to contain, I must refer you to the transactions when they appear.

On the third morning Dr. Greggs, the senior delegate from Georgia, was called to the front, and after expressing his appreciation of the cordial greeting extended to his delegation, and saying many flattering things of the Association, closed by throwing out some hints to the Board of Health, in furtherance of their wide-extended duties. He was followed by Dr. McKiethen, of Autauga, on Twin-gestation, giving the history of a case of labor in a negro woman, resulting in the birth of a black and white child, begotten, as he contends, by different fathers—a white man and a negro. Dr. Peterson discussed this paper at some length, and was disposed to admit the soft impeachment. If true, it may be set down as a practical illustration of social equality.

Last, but by no means least, came a paper on Malaria, by Dr. Riggs, and when I say that it was abreast with the most advanced researches in this direction, and contained many home and practical truths, it is but what every member of this Society would expect from its author; and when I add that scarcely a week before the meeting of the Association he told me that he had written nothing as yet, you may imagine my surprise and gratification when I heard this admirable paper read.

Before the final adjournment, Dr. Seelye, of Montgomery, offered a hundred-dollar prize for the best essay on Bright's disease of the kidneys.

It has been said or sung, "That westward the star of empire moves," and why should it not have reached Selma by this time; and further, why can not some member of our Society keep this prize at home, and if the successful contestant finds it at all onerous to invest it, I pledge him in the name of the Society that it shall be changed into a memento, which shall keep his success fresh in our memories.

Now, gentlemen, a few words with regard to the organic law of the Association, and I am done.

I am sure that no one, after my casual reading of its constitution, could have been more opposed to the oligarchy, as I was pleased to call it, than myself; but I am free to confess that the more of thought and study I have devoted to it, and the longer I have watched its workings, the greater meed of praise I am disposed to give to its author; and further, I have no hesitation in saying that if the professional gentlemen of Alabama will, with one accord, put their best energies to the work, and carry out its spirit to its legitimate ends, it will not only advance the material interest of the Profession in this State, but will so commend itself to those who surround us, that seeing its good works, they will go and do likewise.

Third Semi-Annual Meeting of the McDowell Medical Society.

The Association convened at Hartford, Ky., June 1 and 2, 1875, in the Methodist Episcopal church, at 1 o'clock P. M., and was called to order by the President, Dr. A. C. Wood, of Owensboro.

Drs. Davis, Townes, and Clements were appointed a Committee on Credentials.

The following applicants for membership having been reported on favorably by the Committee on Credentials, were duly elected: Drs. N. J. Raines, Rosine; T. J. Shoemaker, Morganfield; C. W. Layton, Rockport; T. J. Miller, Hartford.

The chairmen of committees being called upon for reports, Dr. P. Thompson, of Henderson, read a long and interesting article on the Improvements of Surgery, which was referred to the Publication Committee.

The Committee on Practical Medicine failed to report.

Committee on Medical Ethics; no report.

Committee on Obstetrics, Dr. O. L. Drake, of Slaughtersville, chairman, presented a report, which, after being read by the Secretary, was referred to the Committee on Publication.

Committee on Finance; no report.

A letter from Dr. T. H. Moore, of Madisonville, Committee on Epidemics, stating that, owing to his failure in obtaining statistics, his report was too incomplete for presentation, was read by the Secretary; and, upon motion, received and ordered filed.

Dr. E. H. Luckett, of Owensboro, Committee on Hygiene, presented an excellent paper, entitled "The Application of Hygienic Measures to the Management of Disease," which, upon motion, was placed in the hands of the Publication Committee.

Dr. J. Hale, of Owensboro, presented a very valuable contribution on "Zymotic Poison," which was referred to the Publication Committee.

The Committee on Syphilis failed to report.

The report of Dr. W. M. Hanna, of Henderson, chairman of Publication Committee, which was read by the Secretary, and an excellent written report of "Two Cases of Successful Operation for Strangulated Hernia," by Dr. J. A. Hodge, of Henderson, presented by Dr. J. B. Cook, each took the usual course to the Publication Committee.

The following Committee on Nomination was announced by the Chair, and instructed to report to-morrow morning: Drs. J. B. Cook, J. Q. A. Stewart, C. W. Townes, J. W. Pritchett, and Amos Davis.

Dr. J. W. Pritchett, of Madisonville, read a preamble and resolutions, passed by the physicians of Madisonville, relative to the death of our deceased fellow, Dr. W. L. Jenkins, of Hanson's Station, after which the following resolution was offered and passed:

Resolved, That a Committee on Necrology be appointed, whose duty it shall be to prepare a memoir of Dr. Jenkins, to be read at our next regular meeting, and that the committee be instructed to incorporate the communication from the Madisonville physicians in their report.

Drs. J. W. Pritchett, S. S. Watkins, and James H. Letcher were appointed said committee.

The Society adjourned to meet this evening at 7½ o'clock.

Night Session.

The Society was called to order by the Vice-President, Dr. P. Thompson, of Henderson, at 8 o'clock.

Dr. A. C. Wood, of Owensboro, President, then delivered his retiring address, which was listened to with marked attention by a large and appreciative audience.

Upon motion by Dr. J. B. Cook, of Henderson, the thanks of the Society were tendered Dr. Wood for his learned and interesting address, and a copy requested to be placed in the hands of the appropriate committee for publication.

At the close of Dr. Wood's remarks, several gentlemen spoke of the importance of raising funds to erect a monument over the remains of Dr. Ephraim McDowell, the Father of Ovariotomy, whose honored name our Society bears.

It was moved that a committee of ten (one from each county represented in our Society) be appointed, whose duty it shall be to solicit contributions for said purpose; this committee to make quarterly reports as to their progress, etc., to the President of this Society.

Adjourned until 8 o'clock A. M. the following day.

Second Day.

The Society convened at 8 o'clock A. M., President Wood in the chair. The reading of the minutes of yesterday were dispensed with.

The Chair announced the following gentlemen as constituting the McDowell Monumental Fund Committee: Drs. James H. Letcher, Henderson county; J. F. Kimbly, Daviess county; Robert Taylor, Hancock county; T. J. Shoemaker, Union county; J. W. Pritchett, Hopkins county; W. H. Hillsman, McLean county; Amos Davis, Ohio county; O. L. Drake, Webster county; R. M. Fairleigh, Christian county; G. W. Townes, Muhlenburg county.

Upon recommendation of the Nominating Committee, the following gentlemen were elected officers for the ensuing twelve months: President, Dr. P. Thompson, Henderson; First Vice-President, Dr. J. Hale, Owensboro; Second Vice-President, Dr. G. W. Townes, South Carrolton; Third Vice-President, Dr. T. J. Shoemaker, Morganfield; Fourth Vice-President, Dr. Amos Davis, Buford; Fifth Vice-President, Dr. S. R. Nesbit, Earlington; Recording Secretary, Dr. James H. Letcher, Henderson; Corresponding Secretary, Dr. J. W. Pritchett, Madisonville; Treasurer, Dr. W. M. Hanna, Henderson; Publication Committee, Drs. E. H. Luckett, S. S. Watkins, and J. F. Kimbly, Owensboro; Dr. W. M. Hanna, Treasurer, Henderson; Dr. J. H. Letcher, Recording Secretary, Henderson.

The newly elected President expressed his sincere thanks for this, the greatest honor ever conferred upon him, in thus calling him to the presidency of this Society, and made a few timely remarks touching the object of the organization, etc.

The Recording Secretary was requested to furnish the Corresponding Secretary with a list of all the delinquent members, that he might write them to pay up their dues.

The Committee on Credentials having reported favorably on the petition for membership of Dr. Tyler Griffin, of Hartford, he was elected a member. The Corresponding Secretary was requested to notify all the members of the Association, of the time and place of our next meeting about twenty days previous to the meeting.

Dr. J. W. Pritchett, of Madisonville, reported a remarkable case of "Rupture of the Uterus, with Recovery," which, together with an interesting paper by Dr. J. B. Cook, of Henderson, on "Presentation of the Breech and Inferior Extremities, and use of the Forceps," was referred to the Committee on Publication. The latter paper elicted quite a lively discussion, which was participated in by many members of the Association.

The following preamble and resolution, offered by Dr. J. B. Cook, of Henderson, were unanimously adopted:

"WHEREAS, Newspaper quackery has become of frequent occurrence in the Medical Profession, and there is a commendable effort being made on the part of some of the medical journals of our country to suppress the same, therefore be it

"*Resolved*, By the "McDowell Medical Society," that we condemn in unmeasurable terms the attempt on the part of any medical man to foist his name before the community in which he resides by publishing, or allowing to be published in the newspapers, a history or report of his cases or surgical operations."

The Chair announced the following chairmen of Standing and Special Committees: Committee of Arrangements, Dr. J. B. Cook, of Henderson; Improvements in Surgery, Dr. J. F. Kimbly, Owensboro; Improvements in Practical Medicine, Dr. G. B. Tyler, Owensboro; The Use of Forceps, Dr. J. A. Hodge, Henderson; Obstetrics, Dr. W. A. Jones, Caseyville; Public Hygiene, Dr. G. W. Townes, South Carrolton; Finance, Dr. T. W. Taylor, Henderson; Summer Diseases of Children, Dr. J. B. Cook, Henderson; Diseases of Women, Dr. R. M.

Fairleigh, Hopkinsville; Puerperal Fever, Dr. W. B. Furman. Henderson; Typhoid Fever, Dr. J. Q. A. Stewart, Owensboro; Consumption, Dr. T. H. Moore, Madisonville; Syphilis, Dr. N. A. Kitchett, Robard's Station; Uterine Diseases, Dr. S. S. Watkins, Owensboro; Pneumonia, Dr. C. B. Hayden, Owensboro; Strabismus, Dr. J. Hale, Owensboro; Jaundice, Dr. E. H. Luckett, Owensboro; Use and Action of Blisters, Dr. H. H. Bryant, Cross Roads; Ophthalmia, Dr. A. C. Haynes, Owensboro; Croup, Dr. P. Thompson, Henderson; Blood Letting, Dr. R. M. King, Madisonville; Malarial Diseases, Dr. Tyler Griffin, Hartford; Fractures, Dr. C. H. Todd, Owensboro.

The unanimous thanks of the Society were tendered our retiring President for the most efficient manner in which he has discharged the duties of his office; to the Methodist denomination of Hartford for the use of the church in which its meetings has been held; to the citizens of Hartford for their kind hospitality to its members during their sojourn with them; to the L. P. & S. W. R. R., St. L. & S. E. R. R., and O. & R. R. R., for reductions in fare to delegates to the convention.

Upon motion the Secretary was requested to furnish a synopsis of the proceedings of this meeting to the "American Practitioner" and the "American Medical Weekly."

Adjourned to meet at Henderson the first Tuesday in December next.

James H. Letcher,
Secretary.

Wabash (Indiana) Medical Association.

This Association convened at Vincennes on Tuesday, June 8, 1875, in the City Hall, Dr. W. W. Hitt in the chair. The minutes of last meeting were read and adopted.

The Committee on Nominations, consisting of Drs. Barton, Helms, Haughton, Freeland, and Smydth, made the following report, which was adopted: President, Dr. A. Patton; Vice-President, Dr. S. W. Peck; Secretary, Dr. H. M. Smith; As-

sistant Secretary, Dr. A. J. Thomas; Treasurer, Dr. J. R. Mantle; Librarian, Dr. F. W. Beard.

The President elect was allowed until the next quarterly meeting to prepare his address.

The Society then adjourned until 2 o'clock P. M.

Afternoon Session.

The Society met pursuant to adjournment, Dr. Patton in the chair.

The reading of papers being called for, Dr. W. C. Smydth, of Worthington, read a very interesting paper on Venæsection.

Dr. F. W. Beard presented to the Society a specimen of unilocular placental apoplexy, and read a history of the case.

Dr. Freeland read an interesting paper on the Composition of the Human Body, and the Changes which take place in Health and Disease.

Dr. P. L. Brouillette, of Worthington, read a paper on Lead Poisoning resulting from the use of Cosmetics and Hair Restoratives, so-called.

The next quarterly meeting was ordered to be held at Vincennes, on the second Tuesday in September.

Essayists for the next meeting—Drs. S. E. Munford, Princeton; J. H. Swafford, Terre Haute; R. H. Crowder, Sullivan; S. W. Peck, Washington; A. J. Haughton, Oaktown; B. R. Helms, Carlisle. Adjourned.

Henderson Medical Club.

At a called meeting of this Club on June 15, 1875, Drs. J. L. Cook, W. M. Hanna, and J. A. Hodge, were appointed a committee to draft resolutions expressive of the feelings of the physicians of this community in regard to the death of Dr. Lewis Rogers, of Louisville, Ky.

The following preamble and resolutions were presented by the committee, and unanimously adopted:

WHEREAS, We have received the sad news of the death of Dr. Lewis Rogers, after a life well spent—full of honors and good works—who was well known, not only in the State, but the whole country, as a physician of broad comprehension, clear judgment, and practical application of his medical skill at the bedside; a gentleman whose quiet, gentle and dignified demeanor won the hearts of those with whom he came in contact, one whose personal charms were familiar to many members of the Club, inspiring all with entire confidence in him as a practitioner of medicine, the delicate sensibilities of his nature, the purity of his moral character, and the exact justice and charity he always exhibited towards mankind; therefore

Resolved, That we deplore his demise as a great calamity to the people, to whom he was a benefactor, and to the Profession, of which he was an honored and distinguished member; and that we mourn his departure from this earth with the deepest sorrow, and extend our heartfelt sympathies to his bereaved wife and family for their irreparable loss.

Resolved, That a copy of these resolutions be sent to the family of the deceased, and to the medical journals of the State for publication, and be spread on the minutes of this Society.

J. L. COOK,
W. M. HANNA,
J. A. HODGE,
} Committee.

J. H. LETCHER, President.

I. COLLINS, Secretary.

ZANESVILLE ACADEMY OF MEDICINE.

At a meeting of the Zanesville Academy of Medicine, held at Zanesville, Ohio, June 21, 1875, the following expressions of sympathy were adopted:

Again we are called upon to lament the demise of an "Honorary Fellow," in the death of Lewis Rogers, M. D., Emeritus Professor of the University of Kentucky, of Louisville, Ky.

In the death of Dr. Rogers the public has sustained the loss of an honorable Christian gentleman; the sick a most skillful, kind and faithful physician; the Profession an eminent teacher; and the family suffers an irreparable bereavement.

As brothers and as Fellows of this Academy, we tender our sympathies and condolence to the family of the deceased in their affection.

CHARLES C. HILDRETH,
J. S. HALDEMAN,
H. CULBERTSON,
} Committee.

J. B. ERWIN, President.

Z. C. MCELROY, Cor. Secretary.

ORIGINAL CORRESPONDENCE.

"Sit mihi Fas scribere audita."

London, Eng., June, 1875.

Dr. E. S. Gaillard:

Dear Sir,—Dr. Galabin has read at the meeting of the East Surrey District of the Southeastern Branch an interesting paper on the cause of puerperal convulsions. He says the immediate cause seems to be some irregular discharge of nervous energy from the basal ganglia, perhaps especially from the corpus striatum, since those muscles are earliest and most strongly affected which are paralyzed in hemiplegia due to disease of that body. No organic changes being found as a rule in the basal ganglia, the changes which take place are functional rather than structural (which is equivalent to saying that we have not yet detected the structural changes). Since unconsciousness occurs, the cerebral hemispheres must also be affected, and especially the superficial gray matter of the convolutions. The change which takes place is rather that of depression and enfeeblement than of exaltation, for Dr. Brown Séquard has shown that in animals made epileptic the nerve centres are anæmic at the beginning of the fit, and Dr. Russell Reynolds thinks that contraction of the cerebral arterioles is the cause of this anæmia, and is interpreted externally by the pallor that precedes a fit—the blue color of congestion not supervening till muscular spasm has interfered with respiration. Since Dr. Lever found albumen in the urine of women suffering from eclampsia, uræmic poisoning has been generally thought the most important element in the production of the fits, especially when it is remembered how very unstable is the equilibrium of the nervous apparatus in pregnant and puerperal women. A slight disturbance will upset the balance; first, as in cases where large doses of strychnia have exalted the reflex irritability of the spinal cord. Dr. Braxton Hicks has shown that before and immediately after a fit, albuminuria is not always present.

More statistics on this point are required; but if it be so, uræmia can not be the cause of the convulsions, though albuminuria might be produced by venous congestion resulting from muscular spasm. The albuminuria is due, according to Braun, to nephritis, generally acute. In many cases, however, nephritis precedes eclampsia, for œdema precedes the fits by some considerable time, moreover if the albuminuria were due to the fits, we should expect it to be produced by other epileptiform fits, and this is not the case. He then details a few cases occurring in his own practice. In the first case the venous congestion was extreme, the temperature rose to 108.5, the convulsions were most severe, and at last almost continuous, and yet no albumen appeared in the urine, nor did the kidneys, brain or any other organ show anything abnormal. In the second case albumen and granular and hyaline casts were found, and the temperature reached 108.8.° No post-mortem was allowed. In a third case which recovered, the urine was like that in the second case, the temperature never rose above 102.6°, and after free administration of alcohol the fits ceased. The urine became free from albumen in five days. The temperature seems to be an excellent guide to a prognosis. In five cases reported by Boumeville, the highest temperature followed by recovery was 104.4;° the lowest fatal temperature 106°, the highest 109.6.° Dr. Galabin on this ground advises cold sponging in hyperheat occurring during eclampsia. The temperature is more remarkable, because in uræmia without convulsions it is generally depressed. In a third case œdema of the ankle preceded the fits by a fortnight, the urine contained much albumen, no casts. From observation of the sphygmograph (which failed to give satisfactory tracings, owing to the struggles of the patient), the pressure of the pulse was concluded to be high, and the systole prolonged, indicating obstructed outflow from the arteries. After chloroform the pressure of the pulse became less, which is a very interesting fact.

In these cases premature labor was induced, and after the

escape of the liquor amnii the fits ceased, recovery followed, the albumen soon disappearing from the urine.

Dr. Galabin concludes that the indication is to diminish arterial tension by bleeding if necessary. He thinks the cause of the tension is contraction of the arterioles from some irritating material in the blood associated with pregnancy; if it were due to mechanical pressure it would be hard to say why nephritis and convulsions appear as early as the third month of pregnancy, or why in ovarian tumor albuminuria is very rare, and nephritis still rarer. This irritating material is not, he thinks, sufficient to produce convulsions unless nephritis occurs, and he believes that cases of eclampsia without albuminuria belong to quite a different set of causes. The whole paper is well worth careful perusal.

Sir James Paget, in his "Clinical Lectures and Essays," has given a most interesting and instructive volume to the world. It is a reprint of isolated essays published either in the medical papers or St. Bartholomew's Hospital Reports, together with clinical lectures delivered at the hospital. Among the headings are "Stammering with other Organs than those of Speech," on "The Cases that Bone-setters Cure," on "Strangulated Hernia," on "Scarlet Fever after Operations," "The Calamities of Surgery," "Death from Chloroform," "The Treatment of Carbuncle directed against the Practice of Incisions," "Nervous Mimicry or Neuromenniesis"—that is, hysteria. There is a most valuable paper on "Sexual Hypochondriasis," dealing with the sexual nervousness which many men suffer from and on which quacks so relentlessly trade. It is refreshing to find a medical man of eminence who is capable of dealing with the moral aspect of a case without allowing his discourse to degenerate into an inferior sort of sermon, and the earnest but thoroughly common-sense and even humorous way in which Sir J. Paget treats this most difficult subject is beyond all praise. One of the most interesting papers is the account of his own illness from dissection poison. The whole volume is most attractive and valuable, and will be no doubt universally read.

Diet has hitherto been so much a matter of private opinion and fashion, that it is a good sign for the future when a manual of diet in health and disease appears. The credit of this is due to Dr. Chambers. We have had our starving and our feeding doctors, the former perhaps in a large proportion recruited from the ranks of the dyspeptic, the latter composed of persons who were capable of enjoying a good dinner, and the administration of alcoholic stimulants has been largely regulated by equally unsatisfactory principles, if principles they can be called. Dr. Chambers, however, has set himself to work in a thoroughly earnest way, and has succeeded to a large extent in what he aimed at; his extensive experience has stood him in good stead, and whatever shortcomings are almost inevitable to the first edition of an attempt in a new direction will be easily supplied hereafter. A manual on this subject has long been wanted, and great credit is due to the man who has at length supplied the deficiency. The book is published by Smith, Elder & Co.

OCCASIONAL.

CHEMICAL AND PHARMACEUTICAL.

"Diruit, ædificat, mutat."---HOR.

Alcohol—Its Action and its Use.—The theme of Dr. Richardson's third lecture was the primary physiological action of ethylic or common alcohol on animal life. He said that this subject might be discussed in two ways: (1) As to the mere physical action of alcohol on the body, and (2) As to its action as a food. Many substances, such as chloroform or opium, produce very marked results when taken into the system, but unlike alcohol they do not in any way act as food or sustain the vital powers; other substances act as foods. Alcohol is peculiar in that we must consider it from both of these points of view. The purely physical action of alcohol was first considered.

Alcohol may be introduced into the body by many channels, but it passes into the blood in every case. The shortest way is by inhalation; the longest and ordinary way is by the stomach. When taken into the stomach, however, alcohol can not be absorbed into the system until it has undergone a certain degree of dilution with water. When we dilute alcohol with water before drinking it, we quicken its absorption. If we do not dilute it sufficiently, it is diluted in the stomach by transudation of water until capable of absorption by the veins.

Alcohol, in its passage through the body, first reaches the blood, and coming in contact with all parts of the blood, it produces disturbing action if present in sufficient quantity. It may cause the corpuscles to run too closely together, and to adhere in rolls; it may modify their outline, making the clearly-defined, smooth outer edge irregular or crenate, or even star-like; it may change the round corpuscles into the oval form; or in very extreme cases it may produce a truncated form of corpuscle, in which the change is so great that if we did not trace it through all its phases, we should be puzzled to know whether the object were indeed a blood cell. These changes are due to the action of the spirit on the water contained in the corpuscles. The spirit absorbs this water from the corpuscles. While these changes are going on, the power to absorb and fix gases is impaired, and when the aggregation of the cells in masses is great, other difficulties arise, for the cells united together pass less easily than they should through the minute vessels, and thus impede the current. Alcohol in excess acts also on the fibrine of the blood. It may act in two ways, according to the degree in which it affects the water that holds the fibrine in solution. It may fix the water with the fibrine, and thus destroy the power of coägulation; or it may extract the water so as to produce coägulation. This explains why in acute cases of poisoning by alcohol the blood is sometimes found quite fluid, at other times firmly coägulated in the vessels.

Alcohol paralyzes the minute vessels, and allows them to become dilated with blood. But the action of the alcohol does

not stop there. With the disturbance of power in the extreme vessels, disturbance is set up in other organs, and the first organ that shares in it is the heart. The vessels being relaxed, and resistance removed, the heart begins to run quicker, with a weakened recoil stroke. It is easy to account in this manner for the quickened heart and pulse which accompany the first stage of deranged action from alcohol, and it is interesting to know to what extent this increase of vascular action proceeds. The information on this point is exceedingly curious and important.

Dr. Richardson then referred to his own experiments on pigeons, and gave an account of the researches of Professor Parkes and the late Count Wollowicz. They found that the average number of beats of the heart in twenty-four hours during first or water period, when no spirit was imbibed, was 106,000; in the alcoholic period, 127,000; in the brandy period, 131,000. These were the eventual average results obtained from eight observations, operating upon the young and healthy adult man.

The highest of the daily means of the pulse during the eight days of the water period was 77.5 beats; the next highest was 77. Comparing the mean of this one day—namely, 77 beats per minute, with the alcohol days, we find:

	Times more.
On the ninth day, with one fluid ounce of alcohol, the heart beat	430
On the tenth day, with two fluid ounces	1,872
On the eleventh day, with four fluid ounces	12,960
Lastly, on the fourteenth day, with eight fluid ounces	25,488

The first day of alcohol gave an excess of four per cent., and the last of twenty-three per cent.; the heart, therefore, during the concluding alcohol stages was doing one-fifth more work. The heart, however primarily excited, soon begins to flag, and more stimulus is necessary to carry on the work; other organs than the heart are also implicated.

The flush seen on the cheek during the first stage of alco-

holic excitation is commonly presumed to extend merely to the parts exposed to view. It can not, however, be too forcibly impressed that this condition is universal in the body. If the lungs could be seen, they too would be found with their vessels injected; if the brain and spinal cord could be laid open to view, they would be discovered in the same condition, and so on. Dr. Richardson said he had witnessed this vascular condition of the lungs of an animal killed suddenly when under the influence of alcohol. He once had the opportunity of observing the same phenomenon in the brain structure of a man who, in a paroxysm of alcoholic frenzy, had his brains dashed out by the wheel of a railway carriage. The brain, entire, was examined three minutes after death. It exhaled the odor of spirit; its membranes and minute structure were vascular in the extreme. "It looked as if it had been injected with vermilion." The white matter of the cerebrum could scarcely be distinguished, and the pia mater, the internal vascular membrane covering the brain, resembled a delicate web of coägulated red blood.

The function of the spinal cord is influenced by the continued use of alcohol. This is the seat of automatic mechanical acts, and these pure automatic acts cease, under the influence of alcohol, to be carried on, the nervous control of certain of the muscles is lost, and the nervous stimulant is enfeebled. Then come in swift succession the impared condition of the brain centres, and the will and judgment suffer shipwreck; the rational part of man abdicates, the emotional or organic reigns. Happy is it for the inebriate that the brain fails before the heart, which to the last remains faithful to its duty. When once the circulation dies, the tragedy is finished.—*Bost. Jour. of Chem.*

Proportion of Oxygen in the Air of Various Regions.—In the Austrian "Journal of Meteorology," Dr. Ucke, of Samara, gives some interesting facts under this head. Samara is in 34° N. lat. on the Tigris, and although it is on the open steppe and

exposed to great vicissitudes of temperature, it is a place much frequented by invalids, and consumption is hardly known there. Dr. Ucke thinks this may be due to the greater amount of oxygen inhaled in a given time at Samara as compared with that available at other stations. He finds great difficulty in obtaining materials for comparing this climate with that of other health resorts, owing to the deficiency of published observations for such places, but finally he takes seventeen stations, situated for the most part in Europe and Asiatic Russia. The amount, in pounds, of oxygen passing through the lungs in a week varies from 200 pounds at Barnaul, to 167 pounds at Seringapatum. London has 192 pounds, while the Central European stations and those at a high level give lower figures.

Excluding the three Indian stations, Sitka, and the mountain station Peissenberg, in Bavaria, the remaining twelve places are divided into four groups, which give the following results as to the yearly amount of oxygen in pounds: Siberia, 2,385; Eastern Europe, 2,326; Western Europe (Brussels and London), 2,305; Central Europe, 2,272. Practically, therefore, rather more than a ton of oxygen is inhaled by every one in a year. The amount of oxygen is increased by high barometrical pressure, and reduced by high temperature and humidity.—*Ibid.*

Brimstone versus Fire.—The use of sulphur as an aid to combustion is natural enough, but to employ it in antagonism to that process will strike many persons as a novel idea. Les Mondes, however, suggests that brimstone should be carried on board every ship, for use in case of fire. Half a hundred weight of brimstone would be amply sufficient to abstract the whole of the oxygen from 3,500 cubic feet of air, thus rendering it unfitted to support combustion. In a closed space, like a ship's hold, the sulphurous gas produced by the burning of the brimstone would penetrate where water from the decks could not be brought to bear, and the density of the gas would prevent its rising or spreading, if pains were taken to close the hatches carefully with wet sails, etc. It is suggested that the

brimstone should be made up in the form of large matches, the ends of which should be passed through scuttles prepared for them in the decks or bulkheads in case of need.—*Ex.*

To Illustrate the Combustibility of Iron.—A German professor does this by means of a bar magnet of considerable power upon one of the poles of which he sprinkles iron filings. These arrange themselves in accordance with the lines of magnetic force, and, however closely they may appear to be placed, of course no two of the metallic filaments are parallel, and consequently a certain portion of air is enclosed as in a metallic sponge. The flame of any ordinary spirit-lamp or gas-burner readily ignites the finely divided iron, and it continues to burn most brilliantly for a considerable length of time, the combustion being apparently as natural and easy as that of any ordinary substance. If the magnet be waved to and fro, a magnificent rain of fire is said to be produced.—*Ex.*

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

"Judex damnatur cum nocens absolvitur."

On Functional Derangements of the Liver, being the Croonian Lectures Delivered at the Royal College of Physicians in March, 1874. By Charles Murchison, M. D., LL. D., F. R. S. New York: William Wood & Co., 1875.

This valuable monograph contains so much of interest and importance that extracts from it are made freely and with pleasure.

In regard to that form of jaundice in which there is no obstruction of the bile ducts, it has long been a favorite belief with many (and many even now hold this belief) that as the bile pigment exists in the blood and is excreted by the

liver, when the liver is torpid from functional or organic causes, the bile pigment is no longer eliminated, and jaundice is the result. Those who have ever believed, or do believe that jaundice can be so produced, will read with interest and instruction the following statements:

1. "Although bile-pigment appears to be derived from the coloring matter of the blood, it has not yet been satisfactorily shown that bile pigment, as such, exists ready-formed in the blood of persons who have not jaundice. Frerichs denies that it ever has. Lehmann, who has investigated with great care the changes which the blood undergoes in passing through the liver, has never been able to detect the coloring matter of bile in portal blood, and infers that this, like the bile acids, must be formed in the liver itself.* The blood of the hepatic artery has been examined with a like result. It is obvious that, if bile pigment exists in healthy blood at all, its quantity must be very minute; and, when we consider that the quantity of bile secreted by the human liver daily is about three pints, and yet that jaundice is not a normal condition, it seems impossible that all the bile pigment secreted by the liver can be formed in the blood; and it is not probable that part is formed in the blood and part in the liver.

2. "The discovery by a few observers of a small quantity of bile pigment in what appeared normal blood does not prove that it was formed in the blood. It is quite conceivable that it may have been formed in the liver, and been subsequently absorbed.

3. "It often happens that, from various diseases, such as fatty and waxy degeneration, cancer, and cirrhosis, that the secreting tissue of the liver is for the most part entirely destroyed, bile is no longer secreted, and yet no jaundice results. Several cases of this sort are referred to by Haspel, where the gall-bladder and bile-ducts, after death, contained only a little white mucus.† Frerichs records a case of fatty liver, where

* Physiological Chemistry, Dr. Day's translation, vol. ii. p. 87.

† Maladies d' Algéric, vol. i. p. 262.

the contents of the bowels were pale, the gall-bladder empty, and the biliary ducts coated with a grayish mucus, notwithstanding which the skin was of a chalky paleness, and the urine contained no bile pigment.* Similar observations have been made by Budd in cases of waxy disease and cancer of the liver,† and several instances of a like nature have come under my own notice. If bile pigment be formed in the circulating blood, it is difficult to account for what becomes of it in these cases.

4. "If the constituents of bile are formed in the blood, intense jaundice ought at once to follow the extirpation of the liver in any of the lower animals, in like manner as urea accumulates in the blood after removal of the kidneys. But, so far from this being the case, Müller, Kunde, Lehmann, and Moleschott have repeatedly extirpated the liver of frogs, and have invariably failed to find a trace of the biliary acids, or of the coloring matter of the bile, in the blood, in the urine, or the muscular tissue.‡

"The supposition that bile pigment is formed in the blood appears to me for these reasons to be wholly untenable."

Having demonstrated his reasons for disbelieving a favorite theory, that in cases of obstruction of the bile ducts jaundice occurring is due to torpidity of the liver preventing the elimination of bile pigment (theoretically) assumed to exist preformed in the blood, the author shows that jaundice in such cases is due to causes which he very satisfactorily elucidates.

It is now very well known that biliverdin once (and until recently) believed to be a secretory element of human bile, is found rather in the bile of the herbivora; and that when found in human bile, it is due to the oxidation of the bilirubin secreted by the liver. In other words, while the livers of the herbivora secrete biliverdin, the liver of the human being secretes bilirubin; and that this is only converted into biliverdin by oxidation.

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* Op. Cit., English edition, vol. i., p. 83.

† Op. Cit., pp. 329, 511.

‡ Carpenter's Human Physiology, 7th edition, p. 434.

It has been shown by Schiff that of the three pints of bile secreted in twenty-four hours by the human liver, at least two-thirds of this quantity is reäbsorbed. If biliverdin were a real constituent of human bile, it is evident then that jaundice would be a normal condition of man. Since this fact was considered, it has been shown by investigations that it is bilirubin, and not biliverdin which is secreted by the liver. Ordinarily two-thirds of the bilirubin secreted is reäbsorbed from the walls of the intestines, and coming in contact with healthy blood is deoxidized, and thus rendered colorless, and also innocuous; if, however, the blood is not in a healthy condition, as in typhoid fever; carcinoma; yellow fever; snakebite; chloroform poisoning, etc., deoxidation in the blood does not occur, but the bilirubin then undergoes in the blood the same changes which it does when confined in the gall bladder; it is converted into biliverdin, and the presence of this pigment in the blood produces general jaundice.

This explanation of those forms of jaundice which are not due to obstruction of the bile-ducts is sustained with great force; the author bringing forward the testimony of many of the most distinguished workers in the field of physiological chemistry.

One of the most important chapters in the work is that on lithæmia, or the poisoning of the blood with uric acid; gout. It is demonstrated that, ordinarily, the liver secretes urea, and that this urea is eliminated by the kidneys. If, however, from excess of albuminous food; debauch; diathesis, etc., there is a failure to form urea, the product really formed is uric acid, and this accumulating in the blood, produces a lithæmic condition which, if not relieved, results in an attack of gout. The importance of this fact therapeutically can not be overestimated; it is the great guide to prophylaxis, as well as therapeusis, when one is called upon to prescribe for those who suffer from this condition.

On the subject of calomel as a cholagogue, the author writes so clearly and interestingly, that no language of the reviewer

can be justly given as a substitute. He furnishes his own views as follows:

"Among these remedies *mercury* and its preparations hold a preëminent place. At the present day mercury has lost much of its former reputation as a cholagogue and alterative, and there is much difference of opinion as to its power over the liver. The practical physician gives a dose of calomel, finds the quantity of bile in the motions greatly increased, and his patient's state much improved; and he argues that the liver has been stimulated by the mercury to an increased secretion of bile, and that to this cause his patient's improvement must be ascribed. The physiologist, on the other hand, ties the common bile-duct in one of the lower animals, produces a fistulous opening into the gall-bladder, and then finds that calomel has no effect on, if it does not diminish, the amount of bile that drains away through the fistula. It may interest some who are present, if I refer briefly to the principal of these experiments.

"Kolliker and Müller, in 1855, tried the effects of calomel upon the secretion of bile in a dog with biliary fistula. The results were somewhat contradictory. Once the bile seemed to be increased, and twice it seemed to be diminished, by the administration of bile.*

"Of four experiments made in 1858 on a dog with biliary fistula, Dr. George Scott found that in all the administration of large doses of calomel was followed by a diminution of fluid bile and of bile solids.†

"In the same year (1858) Dr. Mosler made similar experiments upon two dogs with biliary fistulæ. The administration of calomel was not followed by any increase of bile, nor could mercury be detected in the biliary secretion.‡

"Ten years later (1868), a committee of the British Medical Association, with Professor Hughes Bennett, of Edinburgh, as chairman, made a number of similar experiments on dogs, and

* Wurzburg Verhandlungen, Bd. v., 1855, s. 231.

† Beale's Archiv. of Med., 1858, vol. i., p. 209.

‡ Virchow's Archiv., 1858, Bd. xiii., s. 29.

came to the conclusion that mercury did not increase the flow of bile, but rather diminished it.*

"The most recent experiments are those of Dr. Röhrig, of Kreuznach, made in the Pathological Institute of Vienna. He found that although large doses of calomel did seem to increase somewhat the secretion of bile, its power to do so was inferior to that of croton oil, colocynth, jalap, aloes, rhubarb, senna, and sulphate of magnesia, the cholagogue power of these drugs diminishing very much in the order in which they have now been enumerated, and calomel standing at the bottom of the scale.†

"These results of experiments upon the lower animals have added greatly to the discredit previously thrown upon mercury by its failure, when brought to the test of accurate clinical observation, to absorb plastic lymph in most forms of inflammation; and some eminent physicians are even of opinion that mercury and its preparations ought to be erased from our Pharmacopœia.‡ On the other hand, it has been fairly objected that the results of experiments with mercury upon dogs do not warrant conclusions as to its effects upon man; and, even granting that in man mercury does not increase the quantity of bile secreted by the liver in health, it does not follow that in disease there may not be some condition adverse to the formation of bile, which mercury may have the power of removing. Much, however, of the differences of opinion between the physiologist and the practical physician may be reconciled by keeping in mind the osmotic circulation, to which I referred in my first lecture, as constantly going on between the intestinal contents and the blood. A large part of the bile secreted by the liver and thrown into the bowel is constantly being reäbsorbed, to reach the liver again; and, accordingly, when the common bile-duct is tied and a fistulous opening into the gall-bladder is established, the quantity of bile which escapes from the fistu-

* British Medical Journal, 1868, vol. ii., pp. 78, 176, 191.

† Stricker's Jahrbuch, 1873 part 2.

‡ See Bennett, British Medical Journal, 1868, vol. ii., p. 176.

lous opening immediately after the operation is much greater than at any time subsequently (Schiff). Mercury and allied purgatives produce bilious stools by irritating the upper part of the bowel and sweeping on the bile before there is time for its reäbsorption. The fact of mercury standing at the bottom of the scale of cholagogues in Rhörig's experiments is accounted for by its surpassing all other cholagogues in this property; for of course the larger the quantity of bile that is swept down the bowel, the less is reäbsorbed and the less escapes from a biliary fistula. That mercury does act especially upon the duodenum, is proved not merely by the large flow of bile which follows its action, but by the fact discovered by Radziejewski, that leucin and tyrosin, which are products of pancreatic digestion, under ordinary circumstances decomposed in the bowel, appear in the fæces after the administration of mercurials. It would appear, then, that mercury, by increasing the elimination of bile, and lessening the amount of bile and other products of disintegrated albumen circulating with it in the portal blood, is after all a true cholagogue, relieving a loaded liver far more effectually than if it acted merely by stimulating the liver to increased secretion. It is not impossible, also, that the irritation of the duodenum by calomel and other purgatives may be reflected to the gall-bladder, and cause it to contract and discharge its contents, and thus account in part for the increased quantity of bile in the stools.

"There are likewise, I believe, grounds for believing that, apart from its increasing the discharge of bile from the bowel, mercury exerts a beneficial action in many functional derangements of the liver, in whatever way this is to be explained. Patients of the greatest intelligence suffering from hepatic disorders constantly declare that they derive benefit from occasional or repeated doses of mercurials, which no other medicine or treatment confers; and the skepticism of the most doubting physician would, I believe, be removed, should he unfortunately find it necessary to test the truth of their statements in his own person. It is not impossible that the good

effects of mercury on the liver, and in some forms of inflammation, may be due to its property of promoting disintegration. Mercury appears to have the power of rendering effused fibrin less cohesive, and so more easily removed by absorption than it otherwise would be.* Modern physicians of high standing, and little likely to be accused of credulity as to the beneficial action of drugs, have thought that mercury is useful in croup, by causing a degradation and disintegration of the plastic membrane. If this be so, it seems not improbable that mercury, which from experiment† we know reaches the liver, may under certain circumstances act beneficially by promoting, or in some other way influencing, the disintegration of albumen.

"The remarkable effect of mercury on constitutional syphilis probably admits of a similar explanation. But in whatever way it is to be explained, the clinical proofs of the efficacy of mercury in certain derangements of the liver are to my mind overwhelming. I say so the more advisedly, because I was taught to regard mercury as a remedy worse than useless, not only in hepatic diseases, but in syphilis; it can not, therefore, be said that the *convictions forced upon me* by experience are the result of preconceived opinions."

There are many other subjects of practical interest described with peculiar force in this work; but it is hoped that what has already been presented will be sufficient to induce each reader to purchase the volume.

THE PSYCHOLOGY OF SKEPTICISM AND PHENOMENALISM. By JAMES ANDREWS. Glasgow, Scotland: James Maclehose. 1874.

Mr. Andrews explains phenomenalism as "that which appears to be, but is not what it appears." He claims phenomena in this sense as the sole cause of the necessity for the science of metaphysics. This differs very much from the views of

* Bence Jones, op. cit., p. 283.

† Authenrieth and Zeller found mercury in the blood of animals treated with mercurial frictions. (Budd, op. cit., p. 57).

modern teachers of metaphysics in America, for they claim their science as the foundation stone of every other science, and the principles involved as underlying everything. Mr. Andrews regards phenomena as being the cause of skepticism, and as having in all ages nourished and sustained it.

MISCELLANEOUS.

"Non omnes eadem mirantur ament que."

Dr. Susan Dimock.—Dr. Dimock was born in Washington, North Carolina, April 24, 1847, and was lost in the wreck of the steamer Schiller, May 7, 1875. In her short life of twenty-eight years she acquired, in the face of many serious obstacles, an amount of medical knowledge and of surgical skill such as but few possess; and to these qualities she added a maturity of judgment and power of reasoning which are quite as rare. Her father, Henry Dimock, was born in Limington, Maine, and having obtained a collegiate education by his own exertions, was in 1831 head-master of the Roxbury High School. He afterwards taught school in North Carolina, where he studied law and married a Southern lady.

Until the age of twelve, Dr. Dimock was educated entirely by her parents, and her classical studies had advanced so far at this time that her father spoke of her as understanding Latin verse better than he did when he left college. In 1861, when she was fourteen years old, her school studies were interrupted by the civil war, and by the death of her father. These trials, however, only served to ripen her judgment and to develop her character as no school-work could have done. Her interest in the study of medicine had already shown itself, and at this early period she determined to make it the occupation of her life, and firmly held to this resolution until she was able to carry it out some years later. Her Southern friends

and some of the officers of the Southern army, remember well her deep absorption in reading any medical book, however dry, which she could obtain. In the autumn of 1864, Dr. Dimock and her mother, who had suffered much and lost most of their property in the war, came North. For the next six months Miss Dimock was at school at Sterling, Mass., beginning at this time a course of systematic reading of medical books, which were supplied her by a friend in this city. The following autumn she taught school in Hopkinton, continuing her reading under the direction of Dr. Pratt, of that place. After she had taught for one term, her mother at last gave her full consent to her studying medicine, and at once she devoted herself wholly to her chosen work.

From her entrance into the New England Hospital for Women and Children, January 10, 1866, until her return from Europe, in 1872, all her time and energy were given to her professional studies. She lived in the hospital for two years and a half, making the most of every advantage offered her in the wards and dispensary. During this time she was admitted to attend the clinical visits at the Massachusetts General Hospital, and the clinics at the Eye and Ear Infirmary for a brief period. After her application for admission to the Harvard Medical School had been refused, she went to Zürich to avail herself of the advantages of the best instruction which was open to her. There, in spite of her previous unfamiliarity with the language, she soon stood among the first of her class, and in 1871 she was graduated with high honors.

The following year she spent in clinical studies at Vienna and Paris, returning to America in the summer of 1872, and at once, on the 20th of August, entered upon her duties as Resident Physician to the New England Hospital for Women and Children. No sooner had she taken this position than she moved the hospital into its new building, and began at once to systematize the work of both nurses and students in such a way that their services extended to a much larger number of patients than was ever before the case. She also took charge

of the dispensary for two days in the week, for the first two years of her hospital life, relinquishing it only when obliged to do so by the requirements of her hospital duties. The training-school for nurses, connected with the hospital, was completely reörganized by her; it was under her charge until just before her departure for Europe.

Her medical skill is attested by the hospital records, with their evidence of favorable results. Her success as a surgeon is also proved in these records by the numerous cases of important surgical operations followed by success. Her skill and self-command in operating no one can appreciate who has not witnessed it.

Few are aware of the loss the public and Medical Profession have met with in her untimely death. Those, however, who have worked with her, have learned fully to respect and admire her rare abilities; and to them her loss can never be made up. Her brief and highly honorable career points surely to the high position she would have attained had her life been spared.—*Bost. Med. and Sur. Jour.*

Ovulation without Menstruation.—Dr. Jas. Young ("Lond. Obstet. Jour.") relates the following case: A lady married at twenty-five, became pregnant, and was delivered in about ten months. The child was nursed twelve months. After this the mother menstruated six times. Her second child was nursed five months, until the baby died; since then a third and fourth child have been born, and a fifth pregnancy is now going on, each child having been nursed twelve months; yet during the past *six years* she has *not menstruated* once.—*Ex.*

Retained Placenta.—In reference to some cases of retained placenta that had been treated by forcible removal, which he regards as a dangerous practice, Dr. Lineard, of Oaen, calls attention to the fact that many years ago he published a simple procedure, which he has always found as effectual as it is safe and easy, and which is also a very efficacious means for the

prevention of after-pains and uterine hæmorrhage. It consists in the injection of the umbilical vein with cold water. A clean section should first be made, so as to bring the vessel plainly into view, and also to shorten the cord, which should not be more than from twenty to thirty centimeters in length. A syringe containing at least 150 grammes, and having a long fixed canula, should be employed. The colder the water used, the less is the quantity that need be injected; so that while 150 grammes suffice at the ordinary temperature of winter, twice or thrice as much may be required in summer.—*N. Y. Med. Record.*

Insterstitial Pregnancy..—Dr. Jauvrin ("Amer. Obstetrical Jour.") gives a detailed account of a case of interstitial pregnancy. We give the following points in the case that seem to establish the diagnosis :

1. The mass, uterus and all, could, until nearly five months, be lifted as a whole from the hollow of the sacrum. Drs. Peaslee and Thomas, who frequently examined the case, were not able to separate the growth from the uterus.

2. The bones were no larger than those from a four months' fœtus, but the ossification indicated a fœtus of at least seven months.

3. The small size of the fœtus, as indicated by the small bones, can be explained by the fact, that in interstitial pregnancy there is no decidua, and no maternal portion of the placenta, and therefore much less perfect arrangements for the nutrition of the fœtus than in normal pregnancy.

4. The large size of the mass (at four months) is explained by the very great thickness of the uterine wall, and also from the thickening resulting from peri-uterine inflammation. The exudation from this cause was so great that as the ulceration occurred, and the fœtus made its way to the rectum, the peritoneum had become so changed, and everything so agglutinated, that there was no renewal of the peri-uterine inflammation in an acute form, and no evidence of shock.

5. Labor pains came on exactly at the normal time.

6. During the removal of the fœtus the fingers of the operator distinctly felt the posterior wall of the uterus widely spread out, forming the anterior and left side of the sac.

After a thorough research of the literature on the subject, Dr. Jauvrin could find but twenty-three other cases.

In another case he would remove the mass as soon as an opening had established itself, and not wait for symptons of septicæmia, as in the reported case.

Digestive Apparatus of Newly-born Children.—Zweifel, in a series of researches on the digestive apparatus of newly-born children, carefully investigated the bodies of newly-born children, or those a few weeks old. From an abstract ("Centralblatt—f. d. Medicin"—"London Medical Record") we take the following results:

Salivary Glands.—Extract of the parotid gland always changed starch rapidly into sugar. Extract of submaxillary glands gave only negative results.

Stomach.—When an extract was prepared in the usual manner, it had a digestive power nearly equal to that from the adult stomach. Casein was proved to be specially digestible.

Pancreas.—The diastatic ferment is absent from an infusion of this gland up to the end of the first month of life. It, however, has the property of converting albuminous bodies into peptones, and of splitting up neutral fats. In two cases of diarrhœa it had lost this property.

Glycogen was detected in the liver of a four months' fœtus, examined a few minutes after the heart had ceased to beat.

Effect of Food on Composition of Bones.—H. Weiske, in a series of studies upon goats last year, proved that although the withdrawal of lime or phosphoric acid from the food of adult animals led to fatal consequences, yet it had little or no influence on the composition of bones, not even to render them more friable. His studies this year were directed to the ascertain-

ing whether such influence was exerted on the bones of young animals. Southdown lambs, ten weeks old, were selected. One was fed on food poor in phosphoric acid; a second on food poor in lime; a third on normal diet. After a lapse of fifty-five days, various bones were analyzed, and the general result was that just as in adults, so in young animals. No remarkable change was produced in the composition of the several bones by the difference in diet; or, in other words, the composition of bones is independent of the nature of food. The bones were, however, stunted in growth.—*Zeitschrift fur Biologie—Lond. Lancet.*

Salicylic Acid—the New Remedy in Diphtheria. By Geo. H. Rohe, M. D.—During the last five or six months various articles have appeared in European medical and chemical periodicals, calling attention to a substance possessing almost marvellous antiseptic and antizymotic properties. This article has long been known to chemists as a rare and curious vegetable acid; but owing to the difficulty of its preparation, it is only of late that attention has been attracted to its use in the economic arts in medicine.

Salicylic acid ($HC^7 H^5 O^3$), the compound in question, is contained in the blossoms of spiræa ulmaria, and in the form of the methyl ether in the volatile oil of gaultheria procumbens. One form of its preparation is described by Woehler as follows: Oil of wintergreen is warmed with potassa lye, by which means it is converted into methyl alcohol and potassium salicylate. From the solution of this salt it is precipitated by means of hydrochloric acid; and by recrystallization from hot water, it is purified. The following more economical mode of procuring it, is recommended by Professor Kolbe, of Leipzig: In strong commercial soda lye of known strength, so much melted phenol as is necessary to saturate it, is dissolved. The whole is then evaporated in a shallow iron vessel, with constant stirring and crushing, until a dry powder is obtained. This powder, which is sodium phenylate, is then heated in an oil or

air-bath, best in a metallic retort to 100°, and dry carbonic acid gas is passed over it. The temperature rises to 180°, and then phenol begins to distill over. The process is finished when the temperature has reached 220° to 250° and no more phenol comes off. The contents of the retort, when cool, are disolved in water, acidified with hydrochloric acid, heated to expel phenol, filtered and allowed to cool. Salicylic acid, in nearly the theoretical quantity, crystallizes out.*

Salicylic acid occurs in colorless inodorous prisms, difficultly soluble in cold water, and fusing at 155°–156°C. It possesses, in quantities necessary to produce its effects, very little taste, and no toxic properties. Its solubility is increased by adding alcohol or some neutral salt, such as phosphate of sodium. When treated with iron chloride, its solution turns of a deep violet color.

Professor Kolbe has recently published the results of his experiments in the "Journal fuer prakt. Chemie."

Numerous experiments made with saccharine and other vegetable solutions and infusions demonstrated the power of salicylic acid to retard fermentation in a remarkable degree. It also delays the souring and coägulation of milk, if added in small proportions. Fresh meat rubbed with the pulverized acid was kept in the open air for periods varying from one to four weeks, without showing the least evidence of taint or putrefaction.

Physiological Action.—As far as determinable, from the short time it has been experimented with, salicylic acid produces no unpleasant effect upon the digestive organs, with the exception of a very slight degree of constipation. It rapidly passes into the circulation, and may be demonstrated in the urine two hours after administering it. The urine of persons taking the drug possesses a decided odor of spirœa ulmaria, and takes on a dark violet color upon the addition of a small quantity of iron chloride.

Therapeutic Applications.—Professor Thiersch, of Leipzig,

* The manufacture of salicylic acid on a commercial scale by this process has been undertaken by Dr. von Heyden in Dresden.

was the first to employ it in surgery, and with the most flattering results. He employed it in contused wounds and ulcers, by dusting the wounds with the powdered acid, either pure or diluted with starch. No irritation of the wound was observed, all odor or purulent secretions rapidly disappeared, and recovery soon followed. He has also employed it as an immediate dressing in amputations. The solution used by him consists of one part of the acid to three hundred parts of water. The wound is covered by wadding saturated with this solution. The wadding is kept constantly saturated by a syphon arrangement. In none of these cases did suppuration accur, nor was there the slightest trace of bad odor perceptible.

Dr. Orr, of Cincinnati, has also used it with uniform success in a number of surgical cases. It has been successfully used by a German surgeon in moist eczema of the head and face, in the form of an ointment prepared as follows:

Salicylic acid, 48 grains; alcohol, 1 drachm. Dissolve and add lard, one ounce. Mix and apply once or twice a day.

It is, however, in diphtheria and allied affections that salicylic acid promises to be of the greatest benefit. From several articles lately published in German medical periodicals, the following interesting particulars of its employment are gathered: Dr. Wagner has used a solution of the strength of one part to one hundred of water, as a mouth-wash and gargle in the various forms of stomatitis, in angina, and in diphtheria. In the latter disease, he gives internally from two to five grains every two hours in water or wine.

He had treated, with this remedy, fifteen cases of diphtheria, some very severe ones among the number, without the loss of a single case. Complete disappearance of all local and constitutional symptoms followed in from three to five days in the milder cases, and in eight days in the more severe ones.

Gargling with the solution in this disease did not appear to affect the progress of the disease to any great extent. It should, however, be employed, as an additional aid in all severe cases.

Dr. Wagner considers the effect of the remedy to depend upon its antizymotic properties, destroying the fungus or ferment in the blood, through which fluid it acts when taken internally.

Dr. Fontheim has also used the acid in diphtheria. He relates his experience with it in the March number of "Memorabilien," as follows:

"Since the end of October, 1874, I have treated thirty-one cases of diphtheria with salicylic acid, and I do not hesitate to assert, that this remedy will answer all demands made upon it in this disease. Of the thirty-one cases, not one resulted fatally, and the duration of the disease was not more than eight days in the severest cases; those of a milder type recovered in from two to four days. I have had no case of diphtheritic nephritis since using this remedy, and paralysis of the throat followed in only one instance. Formerly both paralysis and diphtheritic nephritis occurred frequently as complications of the disease." Dr. Fontheim also gives iron, quinine, wine and nutritious food, with an abundance of fresh air.

A teaspoonful of a solution made by dissolving one part of the acid in one hundred parts of water, with the aid of a little alcohol, is given every three to four hours. The same solution is applied to the throat every three or four hours by means of a sponge probang.

The extraordinary success obtained by these experiments should attract the attention of the Profession in this country to this remedy. Should the experience of Thiersch and the other physicians cited be borne out upon further trial, we have in our hands a remedy with which we could bid defiance to diphtheria and the host of zymotic affections which have so long baffled the skill of the physician and rendered almost valueless the resources of his art.

In all those cases in which carbolic acid has been employed, especially as a preventive of pyæmia and septicæmia, salicylic acid recommends itself as a superior remedy on account of its comparative tastelessness and the complete absence of odor and all toxical properties.—*Baltimore Phys. and Sur.*

The Use of Flies.—Mr. Emerson, chemist, West Hartlepool, lately set himself to discover if there were any ends accomplished by that one drawback to the lovely summer months, the common house fly. He communicates his experiments to a local paper, and has since forwarded them to us. Having secured one and laid him on his back, and glued his wings to the object glass of a microscope, he observed that the little animal was covered—legs, body, and wings—with an innumerable quantity of lice. "I was so disgusted, Mr. Emerson proceeds, "with what I considered a pretty fly that I loosened his wings and let the lousy fellow go. After his departure, however, I remembered that I had not got the information I desired—viz., his use and habits; so I caught another and put him into the same position as the former one, and, to my dismay, found him as lousy as the first. I thought this very singular, but I determined to have a close inspection. I got part of a wing into sight, which was beautiful—until I caught a view of the head of one of the vermin coming along to invade my pleasure-ground with his unsightly body. I shifted my glass to have a peep at the body, when one of the legs of the fly came dangling into view, and on the tiny shanks were some of my old enemies. What is that I see? A miniature elephant's trunk now comes in view and licks up a quantity from the leg. I move the glass to have a look at the fly's head, to see how he appeared in his confinement. What a splendid eye! He is busy with his proboscis or tongue, going rapidly in all directions, and by the expression of his eye, looks as if he was quite satisfied and enjoying his meal. I move the glass again to examine his body, which is covered with the vermin, and every now and anon there was a switch of the tongue, licking them off. These must be her progeny (I had up to this time treated my captive in the masculine gender) eating her offspring. I gave liberty to my object, and was more than ever out of love with my fly. I went into the kitchen to watch their gambols around the gas-bracket, and to admire their swiftness through the air, and wondered if they were happy,

with their young hanging about them; but I had not lost faith in their innocency, and also in the harmlessness of their alighting on my bread and butter. I observed a piece of clean note paper lying on the dresser. Presently two flies lit on it, and appeared to be licking something off it. I laid hold of the paper and took it to the microscope. I put a corner on the glass, and there were some of the progeny of the fly on it. This set me thinking. I took a cloth and rubbed the paper well; then tried it again and found none on it. I took it into the kitchen again and waved the paper around, taking care that no flies touched it; went back to the microscope, and there found animalcules, same as on the flies. I had now arrived at something definite; they were not the progeny of the fly, but animalcules floating in the air, and the quick motions of the flies gathered them on their bodies, and they then went into some quiet corner to have their dainty meal. Further experiments convinced me that I had found the real use of the flies. I afterwards caught one in a bedroom—it was one of Pharoah's lean kine—examined it, and there were no animalcules on it; neither could I get any in the room. I then tried the yard near the kitchen, and found very few there; then went into the back street, where it was neither very sweet nor clean (that morning the scavengers had been cleaning the ash-pits); got plenty on my paper there. I arrived at the conclusion that instead of the flies being a pest and a nuisance, they are the friends of mankind, and should not be slaughtered wholesale as they generally are; for wherever there are the most animalcules, there will be found the most flies to feed on the same. These experiments were made in sultry weather. I always found my sports spoiled after a heavy rain and strong winds, for then I could not bag much game, and when frost set in, found none. I may say that I have tried an endless variety of disinfectants and purifiers to overcome these animalcules, and that I found nothing so effectual as burning sulphur on a dust pan, and carrying it about the place."

Mr. Emerson adds that he is now investigating the spider,

and is trying to discover what is the use of him. If our correspondent should conclude that the main use of spiders is to catch flies, that the use of flies is to catch lice, he will be duty bound to proceed to the remaining problem respecting the purpose served by the last named tribe. Whatever this may be, Mr. Emerson certainly deserves credit for his patient and skillful investigation, and for his interesting, and, we believe, novel observations.—*Chem. and Drug., London.*

Physiology of the Kidney.—M. Heidenhain ("Le Progrès Med."—"Brit. Med. Jour.") gives strong confirmatory proof of Bowman's theory respecting the function of the malpighian bodies, and of the convoluted tubes. Bowman believes that while the malpighian bodies are the main outlets for the watery part of the urinary secretion, the peculiar solids of the urine are secreted by the gland cells which line the convoluted tubes. The living kidney has a strong affinity for indigo, so that when an alkaline solution of sulphate of indigo has been injected into the blood of the living animal, the urine and the kidneys quickly become tinged by the coloring matter. By varying the experimental conditions, M. Heidenhain found that he could determine the exact part of the glandular structure by which the coloring matter was excreted.

The effect of dividing the spinal cord below the medulla while artificial respiration is performed, is to cause complete suppression of urine. But the sulphate of indigo having been injected into the blood is found to have given a blue tinge to the convoluted tubes, while the malpighian bodies and the straight tubes remain untinged. The coloring matter of the indigo is found in those portions of the kidney which are believed to perform the true excretory function. Further, it was found that if the animal were killed ten minutes after the injection of the indigo into the blood, the coloring matter was found only in the cells of the convoluted tubes, while the clear canals within the tubes were free from color. But if an hour or more elapsed before the death of the animal, the color was

found to have passed from the gland cells into the canal of the tubes, where, in the absence of water to remove it, it formed a crystalline deposit.

Other experiments gave similar results, so that it is rendered probable, in the highest degree, that while the specific urinary constituents are secreted by the gland cells which line the convoluted tubes, the malpighian bodies pour out water to flush the tubes, and the straight tubes of the medullary portion of the kidney act as conduits for the urine which has been secreted in the cortical part of the gland.

Ascites—Recovery after Tapping One Hundred and Thirty-Three Times.—Dr. A. Jameson ("Edinburgh Medical Jour." —"London Med. Record") reports the following remarkable case: A woman was tapped one hundred and thirty-three times on account of rapidly recurring ascites. Cause of acites was obscure. Patient was temperate and had generally enjoyed good health. The acites came on gradually, her age being sixty. There was no heart disease; no albuminuria; never jaundice; size of liver normal; no ovarian disease. The operations were all performed between April, 1870, and September, 1874. At one time the patient had to be tapped every week, three gallons being removed on each occasion. Towards the end of this period, the fluid accumulated more slowly, but the interval between the one hundred and thirty-second and one hundred and thirty-third tapping was only three months. Since last operation there has been no appearance of the dropsy; the patient now gets about actively, and is in excellent health.

Treatment of Whooping Cough.—Wild claims that he can cure every case of whooping cough within eight days by the following treatment: The patient is not to leave his room, and at every access of coughing is to place before his mouth a small piece of cloth folded several times, and wet with a teaspoonful of the following solution: Ether, 60 parts; chloroform, 30 parts; turpentine, 1 part.—*Deutsches Archiv. fur Klin. Med. Allg. Wien. Ztg.*

The Origin of the Lymphatic Vessels.—M. Sappey ("Med. Record"—"La France Med.") for many years sought for the origin of the lymphatics. His method consisted in injecting the lymphatic vessels by their own fluid, and then coloring the fluid so as not to alter the capillaries or delicate net-work. His results are briefly: 1. The lymphatics derive their origin from a system of capilicules, and very delicate lacunæ. 2. These capilicules communicate with the blood capillaries. 3. The lymphatic system is not only an agent of absorption, but in its primary net-work gives origin to white blood corpuscles. 4. The connective tissue, the central nervous system, and the serous membranes are unprovided with lymphatic vessels.

MEDICAL NEWS.

'Nulla dies sine linea."

The Late Dr. Lewis Rogers.—The intelligence of Dr. Lewis Rogers' death was received with unusual sorrow throughout the city. Few men were so generally beloved as he. The meeting of the physicians of Louisville to take action in reference to his death was more generally attended than any previous one held in the city. The assembly organized with Dr. R. C. Hewett, chairman, and Dr. J. W. Holland, Secretary. Dr. Hewett, on taking the chair, addressed those present with much feeling, and gave a very interesting account of the sickness and cause of death of Dr. Rogers. Prof. T. S. Bell, of the University of Louisville, also spoke feelingly. Dr. L. P. Yandell, Sr., and Dr. R. O. Cowling also delivered earnest and appropriate addresses. A motion by Dr. T. S. Bell that the Chair appoint a committee to prepare resolutions expressive of the sentiment of the meeting was unanimously carried.

The following committee was appointed: Drs. T. S. Bell, L. P. Yandell, Sr., E. D. Foree, Henry M. Bullitt, and R. O.

Cowling. Dr. R. C. Hewett was subsequently added to the committee, the report of which is as follows:

In full recognition of the potency of the claims of the late Dr. Lewis Rogers to our admiration and respect, in full assembly of the medical men of Louisville, let us act in a manner worthy of the occasion. Therefore be it

Resolved, That we cherish the most lively memories of the long-recognized virtues and preëminent gifts of our deceased brother in the cultivation and practice of the science of medicine.

Resolved, That we recognize in him one of the noblest exemplars of the purity, the goodness and greatness of our profession, and we point to his professional life as one worthy of the closest study and imitation.

Resolved, That we tender to the family of Dr. Lewis Rogers our profoundest condolements and sympathies in the great bereavement that has fallen upon them.

Resolved, That we shall attend the funeral of our deceased brother, and join with the rest of the city of Louisville in giving fitting tributes to his great career as a physician.

Resolved, That these proceedings be published in the city papers, and that the conductors of medical journals throughout the country be requested to publish them in their respective journals.

These resolutions were unanimously adopted.

The following resolution was also adopted:

Resolved, That Prof. L. P. Yandell, Sr., be requested to prepare a biographical memoir of Prof. Lewis Rogers.

A resolution to attend the funeral in a body was adopted.

The meeting then adjourned.

The funeral took place from the late residence of Dr. Rogers, on Second and Breckinridge streets, at 4 o'clock. The ceremonies were conducted by Dr. E. P. Humphrey, of the College-Street Presbyterian Church, and Rev. James C. Morris, of the Walnut-Street Methodist Church. The remains were taken to Cave Hill, the following gentlemen acting as pall-bearers: Dr. R. C. Hewett, Dr. H. M. Bullitt, Dr. Jonathan Clark, Mr. R. A. Robinson, Mr. Henry C. Morton, Dr. T. S. Bell, Dr. D. W. Yandell, Mr. James Speed, Mr. David Lane, and Mr. R. C. Snoddy.

Honorary Pall-Bearers.—Dr. E. D. Foree, Dr. David Cum-

mins, Dr. George W. Ronald, Mr. William Prather, Mr. James Carter, Mr. W. S. Bodley, Mr. J. T. Tompkins, Mr. George Ainslie, Dr. J. Knapp, Dr. B. M. Wible, Dr. J. Lawrence Smith, Mr. James Anderson, Mr. Patrick Joyes, Mr. W. F. Bullock, Mr. J. von Borries, and Mr. M. Kean.

The following resolutions of the Medical Faculty of the University of Louisville were passed:

At a meeting of the Medical Faculty of the University of Louisville, a committee, consisting of Dr. D. W. Yandell, Dr. J. M. Holland, and Dr. L. P. Yandell, Jr., was appointed to submit resolutions of respect to the memory of Dr. Lewis Rogers, whose death had been announced by the Dean. The committee submitted the following, which were unanimously adopted:

Whereas, God, in His all-wise Providence, has been pleased to remove from the scene of his earthly labors our revered and honored professional brother, Dr. Lewis Rogers, a man equally distinguished for his medical learning and skill and his social virtues, and long an esteemed member of this Faculty, and since it is becoming and proper that we, who have known the deceased so long and under circumstances so favorable to a just appreciation of his moral and intellectual worth, should give some expression to the sentiments of respect which we cherish for the memory of our departed colleague, preceptor, and friend; therefore

Resolved, That in the death of Dr. Lewis Rogers the medical profession and the community of Louisville have lost one of their leading members and brightest ornaments—a citizen universally esteemed, and a physician admired at home and abroad for his sound practical wisdom and his thorough professional attainments.

Resolved, That Dr. Lewis Rogers, in his entire and exclusive devotion to his profession, and his diligence in the discharge of its duties during a long lifetime, to the last keeping pace with it in its steady advancement, and in his scrupulous observance of every professional courtesy to his patients and his medical brethren, has left behind him an example of dignity, fidelity, and success which may well be held up to the Profession everywhere as worthy of imitation.

Resolved, That we deeply sympathize with the famiiy of Dr. Rogers in a loss which to them may be truly styled irreparable.

Resolved, That these resolutioas be spread upon the records of the faculty, and that a copy be forwarded by the Dean to the family of the deceased, and to the daily press of Louisville.

J. M. Bodine, M. D.,
Dean of the Faculty.

At the Annual Session of the Medical Association of the State of Alabama, held at Montgomery during the second week in April, 1875, Dr. S. D. Seelye, of Montgomery, after some remarks regarding the increasing frequency with which cases of Bright's disease are brought under medical care in this section, the unsatisfactory, though extensive, literature of the subject, and the generally fatal prognosis which we are obliged to give, rendering it one of the opprobia of the Profession; and believing that there is still some hidden light that may be made to illumine the subject, if attention and inquiry are turned especially to it, proposed to place in the hands of this Association a prize of one hundred dollars for the best treatise on this disease, under the following regulations—viz.: 1st. Competition for the prize to be open to the whole country. 2d. A committee of five to be appointed to adjudicate upon the essays presented. 3d. All essays to be forwarded to the chairman of said committee on or before the first day of February, 1876, and to be accompanied by a sealed letter containing name and address of the author, which letter shall not be opened until after the adjudication is made. 4th. The Prize Essay to be the property of this Association, and to be published in its annual volume of Transactions; and all unsuccessful papers to be returned to the address of the authors; honorable mention being made of any deemed of especial merit. 5th. If none of the essays presented are deemed worthy of the prize, the committee shall have the privilege of rejecting all, in which case the competition shall be open for another year. 6th. The prize shall be one hundred dollars in currency with a certificate of this Association suitably inscribed and bearing the seal of the Association; or it will be wrought into a gold medal or plate with a suitable legend and a fac simile of the seal of the Association engraved thereon, to be of the full value of one hundred dollars, less the price of manufacture, at the option of the successful author. 7th. The adjudication shall be publicly announced at the next annual meeting of the Association, to be held at Mobile during the second week in April, 1876. The above

proposition having been accepted by this Association, it now invites from the thinkers and investigators of the Profession at large the generous competition which its author invokes. Committee of Adjudication—Dr. Jerome Cochrane, Mobile, Ala., Chairman; Dr. J. B. Gaston, Montgomery, Ala.; Dr. W. H. Anderson, Mobile, Ala.; Dr. Peter Bryce, Tuskaloosa, Ala. Benj. H. Riggs, M. D., Sec. M. A. S. A., Selma Ala.

Physicians in General Assembly.—At a meeting of the New Orleans Medical Protective Association, held on the evening of June 26, 1875, the following declaration was unanimously adopted: A true copy, W. H. Watkins, Secretary.

We earnestly declare our disapproval of the system of practicing our profession in the service of associations and societies by contract, as tending towards the demoralization and degradation of the profession of medicine, and ruinous to the financial welfare of us all; particularly to those engaged in such practice.

We heartily endorse the effort now being made by the united profession in this city looking to its immediate suppression, and will coöperate by giving our entire moral support—first, by refraining from such society and association practice ourselves; secondly, in inducing others to do so; and, finally, in regarding as enemies to themselves, as well as to our interests, those who persist in such practice.

Dr. Joseph Holt then delivered an excellent address upon this subject.

In Memoriam.—Dr. George Syng Bryant, Superintendent of the Eastern Lunatic Asylum, at Lexington, Ky., died at Lexington, June 24, 1875. From one of his friends, Dr. L. B. Todd, of that city, some interesting facts in regard to the deceased have been obtained. Dr. Bryant was born in Virginia in 1825; he graduated at Hampden Sydney at an early age, and graduated professionally at Jefferson Medical College, March, 1845. He went to Mississippi, where he practiced for ten

years. During the recent war, he served as a medical officer, both in field and hospital; and always with zeal and efficiency. When hostilities ceased, he made St. Louis, Mo., his home, but was compelled soon to seek a more congenial climate. In 1868 he removed to Lexington, Ky., where, after practicing medicine for several years, he was made the Superintendent of the Kentucky Asylum, in which he died. Personally, Dr. Bryant was genial, courteous, and scrupulously careful of the rights and feelings of others. Professionally, he was an enthusiastic student; a frequent writer; a ready debater; a good practitioner; a faithful guide and adviser. He has fallen in the midst of his usefulness and success; and his friends lamenting their own loss, remember in sympathy and sorrow the irreparable bereavement of his wife. His virtues and his example will long live in the memory of his admirers.

Governor Leslie has appointed Dr. Robert C. Chenault, of Richmond, Madison, county, to the place of Medical Superintendent of the First Kentucky Lunatic Asylum, made vacant by the death of Dr. George Syng Bryant. The appointment, we are informed, is, in every way, a good one. Dr. Chenault is a leading practitioner in Madison county, and has the reputation of being well skilled in his profession.

July 1, 1875.—Dear Doctor: There is in the June Journal a hideous mistake in the proceedings of the Central Kentucky Medical Association, on page 689, 2d line from top, which utterly destroys the meaning of the text. It is fearful; how in the world did you ever get "inflammations" for malformations? Can you not correct it in the Weekly, or somehow? I wish you would, for I have to bear the blame of it. There are a few other errors, but they are of minor import. On page 685 you have "pluged" for plugged, and on same page "placentia" for placenta, and on 680, 3d line from bottom, "these" for three, and the hyphen left out in deaf-mutism. You will be "cussed" for these, and not I, but that "inflammations" error will fall on me. GEORGE T. ERWIN, M. D.

EDITORIAL.

"Nullius addictus jurare in verba magistri."—Hor.

The Richmond (Va.) Academy of Medicine.—The daily Press of Virginia contains several accounts of a disturbance which occurred during the proceedings of the Richmond Academy of Medicine. It appears that Dr. Hunter McGuire used during the evening some denunciatory epithets towards Dr. J. S. Wellford, both gentlemen being members of the Body mentioned. Some excitement ensued; friends interfered; the police were called in, and the parties concerned were required to appear before a court for trial next morning.

On the trial the record shows that Dr. Wellford had frequently stated to persons, professional and unprofessional, that Dr. McGuire had, by the use of hypodermic morphia, caused the death of a young woman of Richmond, Va. Dr. McGuire hearing of this, had attended the meeting of the Academy of Medicine, and finding Dr. Wellford there, had asked him some questions, and not being satisfied, had denounced Dr. Wellford in very severe language. Dr. Wellford then threw a knife at Dr. McGuire; Dr. McGuire reached behind him for a stick; Dr. Magill supposing that this change of posture was for a different purpose (that of drawing a pistol) rushed between the assailants, and occupying apparently, for the time, the attitude of a belligerent, was, with Drs. McGuire and Wellford, arrested and brought forward for trial. At the trial, the facts as here described were elicited: Dr. Magill was discharged; Drs. Wellford and McGuire were required to give bonds to keep the peace.

With the difficulty in its personal aspects the Medical Press has, of course, nothing to do; in its professional or medical relations some notice of it is not only appropriate, but demanded.

It appears that when Dr. McGuire was called to see the patient whose death has been the cause of this trouble, he found her enciente; gestation being far advanced. She was suffering from persistent and severe headache, with nausea, etc. He gave her a little bi-carbonate of soda with some essence of ginger; this was soon ejected. He then administered five minims of a solution of morphia; two grains to the drachm of water. She was soon relieved; became quiet, and was apparently asleep. Seeing her so much better, Dr. McGuire was about to leave; himself and her husband differing at the time as to whether she was asleep or not; hearing their remarks, she aroused from her quiet and said she was not asleep, but so easy that she preferred to rest, and asked her husband not to sit up, but retire. Dr. McGuire then left; he was called, with others, some hours after, by the husband, who was awakened by the stertorous breathing of his wife. She was found with feeble, frequent pulse; contracted pupils; and profoundly comatose. Various remedies were ineffectually tried, and she died before morning.

Was this a death from morphia? To say the least, the facts are sufficient to raise a doubt in the minds of competent judges. For a physician called in to see such a case to declare that death was due to the morphia used, is (as all will admit) inexcusable. The dose, one-sixth of a grain, was too small to produce death; the patient, after being asleep or in a condition simulating sleep, was easily aroused; and conscious; declared her condition to be much improved, and showed care and regard for her husband's welfare. This is not the behavior of one having received a toxic dose of morphia. When found profoundly comatose, the pupils were closely contracted, and the pulse frequent and small.

Where coma from opium is profound, the pulse is usually slow and labored, and the pupil is then often relaxed and dilated. When the facts narrated (certainly very unusual in opium poisoning) are borne in mind, and it is also remembered that the symptoms of the patient when first seen were those often foreshadowing uræmic danger, it is difficult to say how unfair and how improper it was in a professional brother (and colleague) to state that a human life had been lost by the treatment used for its comfort and protection. It is to be regretted that the condition of the urine and temperature was not ascertained. When it is known that the pupil is sometimes contracted in uræmic coma; that this coma is most dangerous when most sudden; that headache, nausea, somnolency and (sometimes) contracted pupil, are some of the admitted evidences of uræmia, the Profession will admit that the statement of Dr. Wellford was unwarranted in its medico-legal, professional, and ethical relations. That Dr. Wellford simply expressed his convictions, all will admit; but while doing him full justice in this respect, each one feels that reserve would have been the just as well as the generous course.

Volume XX.—This is the first number of the volume which closes the decennial period of this Journal. When centennials are now so fashionable, it is impossible to expect that any attention will be paid to a decennial period; but the record of it is not the less appropriate. The last ten years have been the worst for publications ever known in this country; thousands have gone down and given no subsequent sign. That this Journal, founded and continued during this period, should not only have been among the more fortunate to-day, but enjoying one of the largest circulations of any medical work in this country, is a fact for which its editor is most grateful to its supporters. Many errors have been committed and regretted, but the experience of ten years has not been lost. The editor, profiting by this, renews his pledges to make the Journal a true and honorable exponent of modern medicine and medical men.

Each reader and supporter finds "the times hard"; he may find it inconvenient to remit now the amount due; but if he remembers that the editor must furnish every month more than one hundred times this amount, it is believed that every one will promptly lessen this burden and aid in making this volume the best of the series. Nelson at Trafalgar nailed to the masthead his flag with this inscription, "Each man is expected to do his duty." The effect was magical, and the contest bravely won. The battle of life is greater than that of Trafalgar. The same inscription is hoisted. Will the American physician be less true than the British sailor? What does each reader say?

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ORIGINAL COMMUNICATIONS.

"Qui docet discit."

ART. I.—ESSAY ON ERGOT. By B. E. HADRA, M. D., Austin, Texas. [Read before the Medical Society of Travis County, Texas, and, by request of the Society, forwarded to the "Richmond and Louisville Medical Journal" for publication.]

The great number and variety of diseases for which, in late years, ergot has been recommended, causes the literature of this subject to look like the advertisements of the many proprietary medicines of the day, panaceas for all the bodily ills of the human family.

But, studying the physiological action of the drug, it is easy to understand how even the apparently most diverse ailments may be benefited by its use.

On reviewing the literature of the last five or six years, I find that ergot has been recommended and used for hæmoptysis by Anstie, Ritchie, Rogers, Waters, Jamison, Roncusti, and Lauber; for hæmatemesis by Stewart; for paralysis of the bladder by Roth; for ischuria in ante-flexion of the womb by Meadows; for aneurism by Hennanidez, Dutoit, and von Langenbeck; for cardiac diseases by See; for purpura by Piazza; for galactorrhœa by Le Gendre; for prolapsus ani by von Lan-

genbeck; for prevention of abortion, atony of the uterus, uterine hæmorrhage, by numberless authors; for nervous headache by Woakes, Anstie, Eulenburg, Silver, and others; for capillary bronchitis and chronic congestions in children by Irving; for pertussis and laryngo spasm by Hampel; for dysentery and chronic catarrh of the bowels by Gross; for reducing tumors of the spleen and leukæmia by Da Costa; for paraplegia consequent upon hyperæmia of the spinal cord, by Brown-Séquard; for varicose veins by P. Vogt; for erysipelas with mania by Yentes; for diabetes mellitus by Shearer and Foster; for cerebro-spinal meningitis by Powell and others; for fibroid tumors of the uterus by Parvin, Hildebrandt, Reeves, Jackson, and others.

Let us first look at the physiological phenomena following the use of ergot. The contraction of the involuntary muscles, especially those of the blood vessels, is authenticated by all experimenters. I find that only Wernich, of Berlin, in opposition to his formerly expressed opinion, states that there is a widening of the veins, and consequently a diminished flow of blood in the arteries, which gives the appearance of a contracted state of the latter. But ingenious as this idea is, it in no way corresponds with what all other experimenters have clearly seen, and still less with what pathologists have observed. It is further known that ergot has a strong power to diminish the frequency of the pulse in both health and disease. Contrary to this, I find but one observer (Pariera), who found an increase of the pulse. Hooker reports that hourly doses of one-half drachm of the oil reduced the pulse from 82 to 36 beats per minute. As a third effect, we have to state that it, in a marked degree, raises the pressure in the arterial system. The most marked effect of ergot is, as is well known, its power to produce contractions of the womb. The temperature is found by most authors to be diminished, but not in a great degree. As more or less incidental, we may speak of its effects in producing nausea, pains in the epigastrium, ptyalism, and oftener, dilatation of the pupils.

Now, if we recognize as the primary action of the drug its effect in producing contractions of the blood vessels, it is, a matter of course, a physiological axiom, that the blood pressure rises. But looking to its effect in decreasing the pulse, we find here a physiological contradiction. Every text-book on physiology teaches us that the aggravation of arterial pressure is followed by an increase of the pulse (Thiry and Ludwig), although many state to the contrary—a statement not considered by other scientists as correct. Fortunately, ergot has a companion in this disorderly conduct. I refer to digitalis, which, in all its effects, has so striking a resemblance to the drug in question. So we can take for the explanation of this contradiction that of Professor Ackermann in regard to digitalis. He thinks the direct or indirect action of the drug upon the nervous ganglia of the heart is such as to slow the action of that muscle to such an extent that the effects of the increase of arterial pressure are overcome. In fact, the dependency of the pressure in the aortic system from the heart's action is so much an unsettled question, that we can find such statements as that of Professor Fick, who observed once the manometric pressure in the left ventricle lower than in the aorta.

As to the decrease of the temperature following the use of ergot, although stated as of no great amount, it is universally conceded, and as it is always found with an increase of the blood pressure, it would be but physiologically natural. But as this phenomenon is generally explained by the acceleration of the pulse, consequent upon the higher pressure (there being more blood thrown to the surface and producing more rapid cooling), we have, in our case, where there is a decrease of the pulse, to seek some other explanation. If it is true, as supposed by some physiologists, that there is a nervous centre which controls the temperature of the body, then the assumption of a direct affection of the centre by the ergot will explain this strange contradiction. The dilatation of the pupils, as is well known, always follows the contraction of the vessels, and requires no further explanation. The other effects of the drug

are not of sufficient importance to consider, excepting that upon the womb, of which I will speak further on.

Now, from what has been stated, it is evident that the intelligent thinking physician will grasp for ergot in all cases where he wishes to procure contraction of the blood vessels, diminution of the pulse or temperature, or an increase of blood pressure in the aortic system, unless he has some other remedy from which to expect stricter and better results; for the first indication there has been nothing found which acts so quickly and certainly; for the others, it still remains an open question. But it is easily understood how so many different diseases have been met by ergot.

But the question of most interest to the practising physician is, in what manner and through what organs does ergot produce such marked physiological effects? We meet here two different theories; and, as there has been some controversy in our Society, I will dwell upon this part of the subject at some length. The first theory claims that the vaso-motor centre is irritated by the drug, and that in this manner the whole system of blood vessels, supplied with muscles, is put in a state of contraction. As to the contraction of the uterus, it may be here mentioned that some physiologists presume that there is a nervous centre controlling that organ, and that it is situated in or near the vaso-motor centre. The other theory claims that the action of the ergot is to directly excite the walls of the blood vessels, either musculatory or in the termination of the vaso-motor nerves. The drug being carried by the blood throughout the whole venous and arterial tract, must then act by local contact.

It is, of course, impossible for me to decide with certainty which of these two theories is correct, as the physiological proofs are not sufficient to finally settle the question. But I will try to give my ideas upon the subject and my reasons for my belief. I think the drug acts in both ways, but its therapeutical effects are principally by local contact with the walls of the blood vessels. I believe that late writers on physiology

are too much inclined to concentrate the vital powers into central points. It is the fashion to find for each function a great centre, and especially is the medulla oblongata furrowed most thoroughly. Besides the great central nervous organs, there are numerous smaller nervous centres, described as ganglia, to which we ascribe in a lesser degree similar functions; and, in my opinion, we should ascribe to them more independent action than we are accustomed to do. By very close observation of many authorities, I believe it is proven that there are distributed to the peripheric branches of the nerves many small ganglia. For instance, they are found positively in the bronchi, the arteries, the bladder, intestines, etc., not to speak of the well-known fact of ganglia in the heart. The action of this system of nervous communication may be compared to that of telegraphy, where, from one great central office, numerous smaller ones are made communicable, each dependent upon the main office, but each capable of acting independently and communicating with each other without reporting to the central office. So with the nervous system; their powers are mainly delegated from the great nervous centres—i. e., the brain and spinal cord; but each capable of independent action, either locally or by reflex action upon distant parts of the body. We are forced to this view, even were it not clearly demonstrated by microscopical research, for many reasons—viz., the every-day observations of the most common occurrences prove that there is direct irritation, as, for instance, following the application of mustard to the skin, the local application of ether, etc. To explain this by saying that the local sensation or irritation is first conveyed to the great central organ and then back to the same point, is directly in contradiction to the well-known laws of reflex action. Furthermore, we know from actual observation, that in the lower animals, as the fish, the frog, separated parts answer to irritation of their nerves; and it is also stated that exsected parts of the human body, such as the heart, possess the same excitability. There are numberless pathological examples proving local nervous independency, as, for in-

stance, stricture of the intestines or blood vessels, confined to a single circular section. The trouble is local, showing that the affected part has its own nervous centre, otherwise the whole tract of intestine or artery would be affected in like manner. Further, we will refer to the action of atropine upon the pupil of one eye only, or the local action of morphia. I recall a case of double ischiatic neuralgia, in which subcutaneous injections of morphia, made on the worse side, removed the pain on that side twelve days sooner than upon the other.

Chouppe, after observing the effect of one thousand injections of morphine, is entirely convinced of its local action. If the position taken is incorrect, then much of our local treatment, such as stimulating indolent wounds, or stimulating the growth of bone, in fact much of our topical treatment is unsound in theory and useless in practice.

But to return, it is proven also that blood vessels have their own ganglia as terminal nervous organs, possessing independent action. For instance, it is shown by Traube, Thiry, and Kowaleusky, that the contraction of the vessels, met with in cases of suffocation by oxygen gas, is caused by the direct action of the gas upon the ganglia in the walls of the vessels. It seems plausible to adopt the same explanation for the action of ergot collaterally with effect upon the vaso-motor centres. The independency of the action or contraction of the vessels from the vaso-motor centre under certain circumstances is proven by the experiments of Wernich and Schueller, who both found the same contraction of the vessels from the use of ergot after dissection of the sympathetic nerve, which is considered the vehicle of the vaso-motor fibres.

Putzy and Tarchanoff* are of the opinion that there is no necessity for supposing the existence of actively dilating nerve fibrils, but they assume from certain experiments that the regulation of the blood circulation in a part is under the direct control of local nerve centres. There can be no doubt that

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* London Lancet, March, 1875.

there is a vaso-motor centre,* for the whole system, as proven by direct physiological experiments, as well as by the fact that we get general contraction of all the vessels by irritating any sensible nerve at the periphery of the body. But it may be stated that the locality of this vaso-motor centre is not yet closely defined. According to Funke's Physiology, it takes its origin from the gray substance of the medulla oblongata and passes through the anterior portion of the white matter of the spinal cord, from whence it sends fibres to the sympathetic system.

Recently Owsjanisky claims to have detected this centre between the corpora quadrigemina and the calamus scriptorius, and more recently Professor Budge locates it in the pedunculi cerebri. But if we assume such a centre, the physiological experiments force us to believe in a system of counteracting nerves, one the vaso-motor nerves, the other the vaso-inhibitory nerves ;† one continued in the sympathetic system, the other in those fibres running from the medulla, and even the larger nerves of the extremities to the walls of the vessels. On the whole, it seems the most probable assumption that the small ganglia in the walls of the vessels are liable to be irritated, directly as well as by reflex from other parts, or finally from the brain and spinal cord.

Further, to show that ergot, to a great extent, must have a direct influence in irritating those ganglia, I refer to Schueller's experiments, who found that injections of ergot in one ear of a rabbit produced contractions first of the vessels, limited to that ear only, and afterwards extended to the vessels of the pia mater.

Dutoit (quoting from Rankin's Abstract), although he believes that ergot acts through the vaso-motor centre, says that it has a more energetic effect upon the region where it is injected, a clear evidence that it must act in both ways—that is, generally and locally. Looking through the latest literature,

* Maunder's article, who inclines very much to the same hypothesis.

† Rutherford's Lecture, 1872, and Schiff.

I find but one observation contradictory to the local action of ergot. I refer to that of Dr. Jackson (Chicago Med. Journal), who selects in fibroid tumors of the uterus the deltoid region for hypodermic injections, instead of the abdominal walls, as equally efficacious and less incommoding. But considering that the local action could be produced by direct endosmotic contact, it is easy to see how this may be so; for there is not that intimate connection between the abdominal wall and the uterus as to cause more than its general effect. Having used hypodermic injections of ergot somewhat extensively in my own practice, I offer the following cases in proof of its local action. Of course, as in the use of all other remedies, I have met with some failures:

CASE I.—In a case of intermittent neuralgia of both supra-orbital nerves, I injected first ergot on one side only, and after two injections the pain ceased on that side; but the other side got no relief until injections were made on that side as well.

CASE II.—In another case of neuralgia in the post auricular region, radiating to the forehead on the same side, the pains after an injection behind the ear ceased in that vicinity, but still remained upon the forehead.

CASE III.—A case of cranialgia of several years' standing required many injections, the pain being relieved only in the vicinity of the point of injection. In this case the cause of the cranialgia was well marked as produced by dilatation of the vessels, shown by the profuse perspiration upon the forehead. And I believe that only those cases of neuralgia where dilatation is evident are fit subjects for the ergot treatment.

In treating in like manner varicose veins, only those varicosities immediately in the vicinity of the locality of the injection were reduced, while those at a distance were not affected. And here I will meet one of the objections to ergot used in this way. It is claimed by some that the varicosity is headed by the pressure of the small knot or tumor caused by the injection; but this can not be the case, as the injection may be made with equal success at sufficient distance from the vein as to in-

sure that no pressure is made upon it. Catiano, after close observation, expresses his opinion that the knot formed has no influence in reducing the varicosity.

And now a word in regard to treatment of aneurisms by the hypodermic injection of ergot. No doubt the treatment is beneficial, but of itself does not reduce the aneurism, compression being necessary in conjunction with it to effect a cure. The reason why in these cases the action of the ergot is only partial, is that there is a want of muscular tissue in the larger arteries. The influence of ergot upon the womb, especially the gravid womb, in producing contractions of that organ, is well known by all. As I do not think the peristaltic action of the womb of much pathological importance, I will only refer to its use in producing contractions. Which nervous centre or nerve influences the contraction of the womb, has always been and still is an open question. The pneumogastric nerve, which has been considered by many of the older authors as the one having a controlling influence upon the womb, is at this day out of the question. That the sympathetic nerve has much to do in influencing the uterine contractions, seems more or less unquestionable; but as the origin of it and its connection with other nervous organs, especially the spinal cord, is yet embedded in darkness, we have no certain knowledge of its participation. Some of the latest experimenters, as Schlesinger, believe in a centre controlling the uterine action, situated in the medulla oblongata, which centre may be excited from any medullary nerve, and that from that centre the sympathetic nerve with its plexus may be irritated. Wernich, who assumes a centre in the medulla oblongata above the fourth dorsal vertebra, thinks very little of the sympathetic nerve power, or its assistance in conveying fibres, as he claims to have seen uterine contractions even after dissecting the sympathetic nerves. A case observed by Scanzoni seems to throw some light upon this. A woman, entirely paralyzed in the lower half of the body by the pressure of a tumor upon the spinal cord at the first dorsal vertebra, which effectually cut off all communication from above

that point, was delivered under good contractions, thereby showing that the nerves controlling the womb could not be above that point; also showing that the lower portion of the spinal cord could not have much controlling influence upon the contractions. As the woman was paralyzed, there could be but faulty action of the lower portion of the cord. In opposition to these opinions, Cyon holds the plexus uterinus of the sympathetic system to be the main motor centre for the uterine contraction, and that this centre, by irritation of the central nerves, can easily be brought into reflex action. Obermier, long ago, came to a similar conclusion, as he states that the sympathetic ganglia of the lumbar and sacral portions are the main centre. Besides through these assumed centres, uterine contractions can be produced by compression of the aorta or vena abdominalis (Spiegelberg), further by suffocation (Cyon), irritation of the cerebellum, by thermic, chemic, and electric irritation of the ovaries, by reflex action from all sensible nerves, especially those of the mammæ. But now Reimann finds that the excised uterus can be caused to contract by mutual supply and interruption of arterial blood, and believes firmly that the uterus has its own ganglia within its walls as independent centres, a fact which in some animals has for some time been microscopically proven.

Viewing these different theories, which are supported more or less by the best men in the Profession, we must abandon the idea of one solitary source for the uterine contractions. In this we see a certain resemblance to the circumstances surrounding the contractions of the blood vessels. It is doubtless that between these two phenomena there is a close connection, and we are much induced to believe in Schlesinger's supposition, that the centre for both functions (if there is such a one) is the same. In fact, it might not be far from correct to suppose an equality in the nature of all the involuntary muscles, with the same kind of ganglia which are alike affected by the same cause. Then it may be easily understood how the same influence affects them all alike.

So ergot may irritate the general centre for all the involuntary muscles, or it may affect all the single ganglia in their fibres simultaneously. In both conditions we will have a like effect upon all the involuntary muscles; besides, we know that an increase of carbonic acid or a decrease of oxygen gas is a powerful stimulant upon all the nervous organs. The contractions of the blood vessels, which occur from the use of ergot, will cause a diminution of blood in the womb, and thus this organ's contraction. Although Wernich states that these contractions of the womb following the use of ergot commence before the blood vessels have contracted, still the contraction of the blood vessels must, in a short time, have its influence.

To sum up, we have three ways in which ergot acts upon the uterus: 1. By irritating the assumed centre for uterine contraction; 2d. By irritating directly the ganglia in the texture of the womb; 3d. By the effect of the contractions of the blood vessels. And so it does not seem strange that ergot should have such an effect upon the womb, especially in its gravid state, when the action of the nerves and the afflux of blood are so much augmented.

But the question which is of paramount importance to the medical practitioner is, under what circumstances should ergot be administered in order to facilitate the expulsion of the fœtus? There is no dissent from the opinion, that it should be avoided when the os uteri is rigid and not sufficiently dilated. If Braxton Hicks is correct in declaring that missing or fruitless labor pains, under otherwise normal conditions, are nearly always to be attributed to a species of tetanus of the womb, then, of course, ergot will have a damaging effect by increasing the spasm. In hour-glass contractions, or in those cases where only the os (which is the portion of the womb most fully supplied with nervous organs) contracts, of course ergot will have the same unhappy effect. But when there is no rigidity, or when the presenting part of the child, especially the head or breech, has already penetrated the periphery of the uterus, then ergot will respond to our expectations. Then the shape

of the uterus has changed from its ovoid form to that of a cone or cylinder, and the full pressure of the contracting walls been brought to bear upon the feeblest part of its circumference, which is the open os.

Wernich believes that sometimes the unfavorable action of ergot in parturition is produced by the accumulation of urine in the bladder, not only in consequence of crampy contractions of the sphincter vesicæ, but mostly by a greater secretion by the kidneys, consequent upon the higher pressure in the aortic system.

Concluding this part of my essay, it is proper to say a few words regarding the injury done the child in utero by the use of ergot. Although we have no indubitable facts on record, we can not reject the possibility that the child may be injured in one or all of three ways: 1. By the ergot being carried into the circulation of the child and contracting its vessels; 2d. By contracting the placental vessels; 3. By general strangulation of the child by the pressure of the uterine walls.

Finally, I will give a few suggestions in regard to the manner of using ergot. Believing, as I do, in its local effect, I of course prefer to use it topically, either by subcutaneous injections as near as possible to the affected part, or by bringing it into direct contact with it; as, for instance, applications to the bladder, womb, etc. But, whatever may be our opinion in regard to its local or general effect, doubtless the hypodermic method is most efficacious. From two to four grains administered in this way give us more distinct results than drachm doses of the drug internally administered. But it is of much importance to choose the proper proportion for hypodermic use. There are different therapeutical effects in the different substances contained in the secale cornutum; but it is sufficient to divide them into those soluble in water and those soluble in alcohol. The former are considered by all authors as containing the most of the active principle of the drug, with the exception of Hooker, who believes that the essential oil is the principal agent. I would caution against the use of glycerin

as a solvent, as it causes the injections to be exceedingly painful.

The proportions most recommended for hypodermic use are: 1st. Squibb's fluid extract, as prepared by Dr. Jackson (whom we have already quoted); 2d. Bonjean's ergotin, dissolved in water, 1 to 5 or 10; 3d. The ergot of the German Pharmacopœia; 4th. Wernich's preparation (see Session Berlin Medical Society, January 7, 1874).

I have always used Bonjean's ergotin (as prepared by Merck), but I confess that the injections are sometimes very painful, and occasionally produce swellings and abscesses. Hereafter, I intend to try some of the other preparations, and if they fulfill the promises held out by their authors, I trust that this method of using ergot may come into more general use.

Art. II.—Influenza (Syn., Epidemic Catarrh, Grippe, Fr.) as it occurred in Fort Smith (Sebastian County, Ark.,) and its vicinity during the Winter of 1875. By E. R. Du Val, M. D. [Read before the College of Physicians and Surgeons of Little Rock, Ark.]

For the last five centuries this disease has now and then, at long intervals, appeared in different countries of the Old and New World. The causes have been various, as assigned by scientific men—thus, Shœnbein attributed it to ozone in the atmosphere; Holland to animalculæ, and the late Professor J. K. Mitchell, of Jefferson Medical College, to cryptogamous productions.

These theories are simply hypothetical, and nothing in science has as yet been adduced to establish them. That the cause is atmospheric, is, I presume, clearly true, but what the changes in the elements, atmospheric, are that constitute the morbific principle, is yet *sub judice*.

In 1870, and again in 1873, the disease was observed in this section of the State; more marked and severe in the latter

than in the former. In 1872 the epidemic was very general, and affected in addition to the human kind many horses, of which a number of the latter died. The winter of 1872 was noted for the frequency of the changes in the temperature, and the cold, piercing northers, snow, ice, hail, and rains were alternately present with us, and by reason doubtless of this unfixed and varying atmospheric state can be attributed the bronchial epidemic of that year.

On the 8th of January, this year, until 2 P. M., the thermometer indicated a temperature of 15° above freezing; at 12 M. clouds began to bank in the west, north, and southwest, and and the threatening was imminent, apparently of a fierce rainstorm; by 2 o'clock a wind from the north (a norther so-called) began gently to blow, accompanied with the fall of slight snow and feeble hail. This latter continued three-quarters of an hour, when it ceased, and the norther assumed its sway, and grew colder and colder until 9 o'clock A. M. of the 7th, when it reached its maximum intensity, the thermometer indicating 12° below zero. For a week the thermometrical indications were lower than *ever* before experienced in this climate. Up to the 8th of January the health of the winter had been rather better than usual; bronchial diseases were certainly *not* more frequent or severe than usual during the cold season. Between the 8th and 11th of January probably not less than 75 per cent. of the entire population of Fort Smith and the country immediately contiguous were attacked with "influenza"; of this number probably $7\frac{1}{2}$ per cent. were forced to adopt some remedial plan for relief. The percentage of those actually forced to bed, in all probabillty, did not exceed $1\frac{3}{4}$ per cent. The mortality from the disease, *per se*, was extremely light, not exceeding more than one death in fifty cases subjected to treatment. Its impression upon the type, course, and termination of other diseases was very unfavorable, thus the fatality of pneumonia was 45 per cent., an increase of 25 per cent. over former years. The deaths from pneumonia, including a few from phthisis pulmonalis, comprise the mortuary record of the

months of January, February, and the early part of March, except as stated above relative to the fatality of the disease under consideration. By the 15th of March, the disease had disappeared, only three or four cases assuming the subacute form; in these the subjects are predisposed to bronchial irritation, and any exciting cause is likely to induce bronchial catarrh.

The strength of the epidemic was confined to the first four weeks; it then gradually lost its force, and disappeared as above stated. The mucous membrane bore the brunt of the attack, probably not less than 90 per cent. of the cases involved the air passages, 5 per cent. the external auditory apparatus, and 5 per cent. the mucous coat of the bowels and bladder, respectively.

Of the Air Passages—75 per cent. involved the bronchial tubes; 10 per cent. the Schneiderian membrane; 5 per cent. the tonsils (including the Eustachian tube). The serous membrane, such as the pleuræ and meninges of the brain and spinal cord, except in two cases of inflammatory action, in each escaped. (In these one death from cerebral meningitis occurred.) The muscular system was invariably involved in varying degrees of intensity.

Symptoms.—The first manifestation usually of an attack was a tickling or irritation in the fauces or larynx, soon followed by a hard, dry cough occurring in fierce paroxysms, distressing to bear and equally so to hear; a sense of chilliness, with general languor, and muscular pains through the chest, back, and limbs would soon set in (after these latter symptoms would precede the cough), followed in a short time by fever, as manifested by a hot, dry skin, thirst, and a pulse varying from 100 to 120 per minute. This stage of excitement usually lasted forty-eight hours, when a free and muco-purulent discharge from the lungs would ensue, greatly modifying the general condition; the fever would then become less intense, the myalgia less marked, and cough less frequent and painful. The second stage was thus inaugurated, and in four or five days, unless

some complication ensued, convalescence began, and gradually the sufferer was restored to his ordinary health.

The above symptoms, in the average cases, prevailed; in those more aggravated, bronchial involvment was more serious, the sympathetic fever greater, and muscular pain more intense and persistent. The pains in the intercostal muscles and the great muscles of the chest, such as pectoralis major, serratus magnus, etc., etc., was often so acute and persistent as to impress the patient and friends with the idea that pneumonia or pleurisy was present in an aggravated form. The physician, too, without the aid of physical diagnosis might be so deceived. The general symptoms were always in excess of the pathological condition of the thoracic viscera.

When the bowels were involved, it was usually in the form of gastro-enteritis; when the bladder, in the form of catarrh. The nasal catarrh was often excessive, the discharge being very thick muco pus, and in abundance, simulating very closely the characteristics of the discharge from the horse suffering with the epizoötic. Otalgia was very common, particularly among children, and the inflammatory action of the mucous lining of the external auditory canal almost invariably eventuated in the formation of pus; slow and painful in forming, it was tardy to give way, and often with children it was accompanied with a high grade of fever and spasms.

Treatment.—The treatment of this disease was based upon the plan of support, depletion to any extent could not be borne. In the earlier stages the warm bath, with diaphoretics, such as pulv. Doveri, with minute doses of tartarized antimony, was found serviceable. Opiates at night to relieve muscular pains had of necessity to be often resorted to. Purgatives beyond the unloading of the primæ viæ were not essayed; tonic doses of quinine in my hands were found to yield more satisfactory results than any other remedy. Its use in nearly all cases became a necessity. Piperini capsicum, cinchona in powder and in tincture were severally tried, but with poor return. Counter-irritation was found of no essential service; it is true, an

occasional resort to them as a temporary expedient was attended with good results. Quinine was regarded as the chief remedy, the basis of the treatment. Expectorants only as palliatives were used; in the old and feeble stimulants were given with satisfaction. Having experienced the malady in its worst form in 1872, and again in 1875 in my own person, I feel constrained to admit that no remedy or combination of remedies seems to be of any service, unless such was quinine itself, or the combination used had it for its base. Four grains every three hours would check the cough, allay the pains in the muscles of the neck and extremities, lessen the nasal catarrh, relieve the tonsillar engorgement, and enable me to go my rounds with at least partial comfort.

Complications.—Authors speak of the complications to which this disease is prone, and place pneumonia as its chief; such was not my observation in this epidemic. Only one case so terminated, and this was in a young man of nineteen years of age, whose mother died in 1866 with phthisis pulmonalis. His case was the severest of any that came under my care, the bronchitis was diffused through both lungs, involving the capillary tubes, the respirations were from 35 to 40 per minute, the cough frequent, and after the second day the expectoration both profuse and tenacious. Strange to say, the pulse during the first week never rose above 100, and its volume was good; epistaxis was frequent and quite full for six days after he was taken sick, coming on at the same hour each day; it would continue for half an hour, and then stop to return as above stated. On the eighth day pneumonia of the lower lobe of the right lung supervened, which was soon followed by nervous complications, and a typhoid condition was established and continued without abatement until the fourteenth day, when death by asthenia took place.

He passed through the epidemic bronchitis, and successively through the stages of congestion, exudation, and resolution of the pneumonia, and finally died from exhaustion.

In concluding, I am disposed to express the following opin-

ion of the pathology of this disease: That it is an "essential fever," and that the bronchitis attending it is only the local manifestation of constitutional saturation, with a specific poison, which poison is atmospheric, yet undemonstrable by any means known to chemical analysis.

ART. III.—TUMORS. By A. E. SPOHN, M. D., Corpus Christi, Texas.

As deep-seated tumors of the neck are comparatively rare and the source of as much anxiety to the patient as to the surgeon, I desire to publish three remarkable cases which came under my immediate observation, two of which were entirely relieved by removal.

Before proceeding to describe each particular case, I would state that, in speaking of deep-seated tumors, I refer especially to those lying beneath the deep cervical fascia, being in close relation with the vessels of this region. Many of these tumors appear superficial, by forcing their way to the surface, as it were, seeking points of least resistance, still retaining their deep relations and attachments, acquiring, in some instances, all the appearances of one simply superficial, thus deceiving and embarrassing the operator, who may have imagined he was dealing with a superficial cyst instead of a matter of serious importance, involving structures which, in course of time, become a constant source of annoyance, impairing the functions of respiration and deglutition, creating such an amount of laryngeal irritation that life itself becomes a burden. The surgeon is generally consulted while these tumors are comparatively small, and the constitutional suffering on the part of the patient necessarily forces him to devise some means for immediate relief, great as the danger may be in an operation for such relief, which may require the ligation of the common carotid artery and internal jugular vein, or even the division of the important nerves of this region.

Though the instances are rare justifying such formidable operations, it would appear from the following cases, and those by Larrey and other surgeons, that although the immediate risk may be greater, their early extirpation would be attended by the least danger. The diagnosis of these tumors situated in the neighborhood of the larynx is difficult, and their real nature can only be ascertained by exploration with, as I have found most convenient, a hypodermic syringe or aspirator. They are generally of an oval form, regular in outline, pulsation being communicated to them by the surrounding vessels to which they sometimes closely adhere. In all the cases I noticed a peculiar huskiness of the voice, severe coughing, with much irritation in the region of the larynx, giving at times a sense of irritation very alarming to the patient. In the superficial tumors we seldom or never have this irritation about the larynx. Indeed, they may acquire immense proportions without giving much inconvenience. The following cases will pretty fully illustrate this class of tumors:

CASE I.—While residing in the city of New Mexico, I was called on the evening of April 12, 1870, to visit a lady supposed to be in a state of suffocation. She had been unable to swallow, except a few drops of liquid at a time, for several days, respiration was hurried and difficult, and she could barely articulate. Her expression was that of intense agony. On examination, I found a very large tumor occupying the right side of the neck, apparently deep-seated, pushing the sterno-cleido-mastoid muscle and vessels forward and outward, and pressing the larynx to the opposite side. The tumor extended from the angle of the jaw to a little below the thyroid cartilage; was oval in form. She had complained of this tumor for many years, but could not remember when it commenced, as her attention was not called to it until by its immense size it began to affect adjacent parts. She at first complained of dry cough and irritation of the larynx. Her voice was also husky. Time and custom somewhat mitigated her suffering until three or four years ago, when an attempt was made to remove it

by external applications and puncture, from which time it increased rapidly until I was called in, and found her almost suffocated. I immediately decided that an operation would be the only means of giving her a chance for her life, and on the 13th extirpated the whole mass. Being entirely alone, I had to rely on unprofessional assistants, which materially complicated the operation; one fainting in the division of an artery, probably the laryngeal or superior thyroid.

On exploring the tumor, I found it tocontain a semi-gelatinous fluid, and believed it to be of the fibro-cystic variety. The first incision extended from the angle of the jaw to the sternum, being as free as possible. I gradually worked down, using great caution, dividing the fascia on a director, until I arrived at the fibrous envelope of the tumor, to explore which I was compelled to divide about one-half of the internal portion of the sterno-cleido-mastoid muscle. My dissection now became very difficult from the severe hæmorrhage continually taking place. The carotid artery and internal jugular vein were exposed for about an inch and a half, and held outwards by an assistant while I opened the sac, thus lessening its size, seized it firmly, and finished the dissection by carefully drawing it forwards, taking the precaution to ligate every vessel as divided. The tumor was so closely connected with some of the deep structures that, fearing I might divide some important vessel, I threw ligatures around one portion after another, and rather removed the whole mass by ligatures than the knife.

A large portion extended beneath the angle of the jaw, another so deeply behind the larynx that I chose rather to draw them forwards, throw a ligature around each portion, and content myself with removing the mass outside the ligatures. The hæmorrhage was now very severe; seemed to ooze from all parts. Ligatures were out of the question. I saturated a sponge with a solution of persulphate of iron, introduced this into the wound, and with a compress and roller, bound the part as firmly as possible.

I remained with her all night, and on the 14th the hæmor-

rhage was almost controlled. Being under the influence of chloroform nearly two hours, she rested well. Her pulse in the morning was 98, temperature 100° F. I did not remove the sponge until the next day, when I dressed the wound with an ointment of glycerin and starch, medicated with carbolic acid. She gradually improved without any further trouble, except the paralysis of the side of the face and lower lid, the conjunctiva being a little congested. In course of time the ligatures came away, the wound healed by granulation, and she was again able to resume her household duties. It is now five years since the operation was performed. She still lives and enjoys good health, yet has never recovered the use of the muscles of the right side of her face and lower lid, giving rather a disagreeable expression.

I examined this tumor and found it consisted of several cysts containing a semi-gelatinous fluid. In some there was sero-purulent fluid, which, no doubt, in course of time, would have suppurated and given way as in the next case.

CASE I.—On the 10th of July, 1870, I was called to see Mrs. ——, age fifty, suffering from difficult respiration and deglutition, being able to speak only in a whisper. On examination, I found a tumor occupying the right side of the neck, extending from the angle of the jaw to the sternum; she did not complain of much pain, only the troublesome dry cough and difficult breathing. Fearing the tumor involved too many deep structures to justify an operation, I explored it with a hypodermic syringe, and drew off a small amount of colored serum, which increased to two or three ounces, by using a very fine trocar, giving her great relief for some time. It filled again, when I repeated the operation, using injections of tincture of iodine. This treatment seemed to have little or no effect, as the tumor gradually increased, and in a few months she died. I now believe a timely operation for the extirpation of the whole tumor would have saved her life, or at least lessened her suffering.

CASE II.—On the 3d of September, 1873, I was called to see

a lady, age about forty-seven, living near Corpus Christi, Texas, who had been suffering for many years with a tumor of the neck. When she first noticed it, it gave her very little trouble or annoyance, and her medical attendant did not consider it of any consequence, prescribing some palliative. It gradually increased in size, causing considerable irritation in the region of the larynx, dry cough, husky voice, troublesome respiration and deglutition, with at times a sense of alarming suffocation. The appearance of the tumor was ovoidal, regular, and very deep seated, corresponding to the direction of the great vessels, from which I imagine it received distinct pulsation. The tumor being between the vessels and larynx, forced them forward and outward, so that the diagnosis was somewhat obscure. I determined to keep her under observation a few weeks, during which time I used such remedies as her symptoms indicated, and visited her again on the 7th, when I found her condition still worse, with great mental depression and constitutional suffering. I now advised an operation for the complete extirpation of the tumor, which I believed to be fibro-cystic, and deeply seated in the anterior triangle of the neck between the vessels and thyroid cartilage. The tumor extended from a little below the angle of the jaw to the sternum, dipping down behind the latter so that it was almost immovable, being bound down by the deep cervical fascia.

On the 1st of October, at 2 P. M., assisted by Drs. Combe and Reamey, I operated for extirpation of the whole tumor. After exploring the tumor with a hypodermic syringe, through which I drew off a few drops of straw-colored serum, I made an incision through the integument from the upper part of the tumor to the sternum, dividing the different layers of fascia on a director. On reaching the tumor I found this incision was too small, and extended it up to the angle of the jaw. To facilitate the operation, I divided the inner two-thirds of the sterno-cleido mastoid muscle, and sufficient portions of the sterno-thyroid and hyoid muscles as seemed necessary. The tumor was now exposed, its lower portion raised with some diffi-

culty from behind the sternum and carefully separated from surrounding parts. The common carotid and internal jugular vein were exposed and held outwards. The tumor now gave way at the point where the hypodermic syringe entered, discharging several ounces of fluid, which rather assisted the operation by lessening its size. We now seized the sac and drew it forward, separating it carefully; one portion was apparently attached to the thyroid gland, another dipped down behind the larynx. Fearing troublesome hæmorrhage, we threw a ligature around that portion attached to the thyroid gland. This was useless, for after removing the deeper portion of the tumor the part adhering to the gland was easily separated, and the whole sac removed without implicating any important vessels, there being scarcely enough hæmorrhage to require the use of the sponge. These could now be distinctly seen externally, the carotid artery and jugular vein, internally the thyroid cartilage gland and trachea. As there was very little hæmorrhage the wound was closed with horse-hair sutures, and a small amount of cotton moistened with a weak solution of carbolic acid placed upon the parts to keep them in apposition. The patient was under the influence of chloroform about one hour. During the evening she rested very well, complaining at times of pain in the neck, jaw, and teeth; we administered chloral and bromide of potassium, which was sufficient to keep her quite easy. At 6 P. M., pulse 96; temperature 99° F.; respiration 28. She rested well during the first part of the night, but becoming a little restless near morning, repeated the chloral mixture, after which she slept well several hours. A part of the wound closed by first intention, the remainder suppurated considerably. In a few weeks, however, she entirely recovered, the neck being a little drawn to one side from contraction of the cicatrix. I have since learned that this has gradually improved, and now two years since the operation she is enjoying perfect health.

These cases illustrate a class of tumors of the anterior triangle of the neck, between the vessels and larynx, beneath the

deep cervical fascia. In the three cases all were situated on the right side. Their growth is generally slow, accommodating themselves to the above space, giving little trouble, until by increased size they begin to annoy the patient, producing alarming laryngeal irritation, dry cough, husky voice, and difficult respiration and deglutition.

In the cases on which I operated the suffering was so intense that I considered the operation absolutely necessary, nor do I believe any other procedure would have been justifiable; as from experience I have learned that interfering in the way of injections, etc., is very dangerous practice, tending to create an amount of inflammation which greatly increases the suffering of the patient as well as the growth of the tumor.

ECLECTIC DEPARTMENT.

"Carpere et colligere."

ART. I.—A CONTRIBUTION TO THE TREATMENT OF TUBAL PREGNANCY. By T. GAILLARD THOMAS, M. D., New York.

No condition which develops itself in connection with gestation is attended by greater or more inevitable dangers than that in which the impregnated ovum attaches itself to tissues outside of the uterus. The vast majority of women thus affected lose their lives from sudden rupture of the vicarious uterus in which the fœtus exists, while others, after passing through long periods of suppuration and discharge of the fœtal remains, die from exhaustion or the absorption of septic elements. It is true that a certain number have recovered, but none have done so without exposure to very imminent risks, and generally after prolonged suffering.

Authors have apparently vied with each other in dividing and subdividing this abnormal development into varieties subordinated to the exact position in which it occurs, some making

even as many as ten of these. After careful examination of every case of extra-uterine fœtation to which I have had access, I am unable to substantiate the position, and yet I feel inclined to believe that, in the commencement of its development, the impregnated ovum never attaches itself to or draws its nourishment from any other parts than those lined by the mucous membrane of the uterus or tubes. Knowing as we do the delicate and subtle connection which the chorion establishes with the maternal tissues, it is certainly difficult to believe that an impregnated ovum, falling free into the peritoneal cavity, or detained within the Graafian vesicle, can, with parts so unlike the lining of the uterus, establish relations almost identical with those which are normal. Velpeau and others have warmly contested the validity of ovarian pregnancy. One recent author, in sustaining it, mentions as a ground for it the fact of the fœtal ball being covered by peritoneum. As it has been demonstrated that the ovary is not covered by peritoneum, this argument loses much of its force, and a resort to it shows how much in want of proof the position really is. Even the presence of the fibrous tunic of the ovary around the ovum could be simulated by an envelopment by the flattened organ, somewhat like that of the decidua reflexa in the uterus.

It is certainly possible that an impregnated ovum, caught in the fimbriæ of a tube, could develop between tube and ovary, flattening the latter, and in time attaching itself to it, so as to give many of the appearances of ovarian pregnancy. This Velpeau claims to be the true explanation of cases reported as ovarian. In the same way, the fimbriæ attaching tube to ovary being broken, the latter, holding in its grasp the impregnated ovum, may fall into the peritoneal cavity, where the vascular chorion soon establishes a firm connection with the peritoneum or omentum, rendering the tubal relation entirely insignificant.

Interstitial pregnancy is, of course, only a variety of tubal pregnancy, that part of the tube being involved which passes through the uterine wall.

It may be said that all of this is unproved. To this I would

reply that the usually accepted theories are by no means satisfactorily settled; that the view here advanced is far more rational and in accordance with physiological laws; and that it is offered entirely in the character of a suggestion for future investigation.

With these prefatory remarks, I will now proceed to relate the following case, which has called them forth:

On the 4th of February, 1875, I was requested to visit Mrs. C., in Elizabeth, N. J., in consultation with Drs. Green and Crane, of that city. I found the patient to be a refined and educated lady of thirty-two years of age, of medium height, who, up to three weeks before the date above given, had enjoyed excellent health.

The history given me of her existing illness was the following: On the 26th of October Mrs. C. had menstruated for the last time, and within three weeks from that date the gastric symptoms of pregnancy had shown themselves. About the 24th of November a very slight discharge of blood took place from the vagina, but neither in duration nor character did it resemble the menstrual flow. From this time until three weeks before I saw her, all the symptoms of pregnancy had gradually developed themselves, and the patient, who had been sterile during a married life of six years, had believed herself to be now really pregnant.

About the 15th of January, during the night, the patient, who for some days before this had experienced some uneasiness in the left iliac fossa, was awakened from sleep by a severe "cramp" in this region. In a short time this increased to a pain which became agonizing in character, and Dr. Crane was sent for. He found her suffering so severely that the forehead was bathed in perspiration, the pulse small and rapid, and the countenance pinched. Only after the free and repeated use of morphia subcutaneously, was this attack relieved. On the next day the patient was free from this paroxysm, but felt a great deal of soreness over the left iliac fossa, and this part was tender to the touch. During the next five days this state of things

continued, and at the end of this time another paroxysm of severe pain occurred, which, like the first, was relieved by the free hypodermic use of morphia.

After this attack the patient was not again free from pain until I saw her, and was most of the time confined to her bed and kept under the influence of morphia, which was repeatedly injected hypodermically. At intervals of several days the severe attacks of pain which I have described would come on, and last for five or six hours, passing off under the influence of morphia used as above mentioned.

Upon my visit at 4 P. M. on the 4th of February, I found that Mrs. C. had had, in all, five paroxysms of pain, and was never entirely free from suffering. So great was this when she walked across her room, which she did very rarely, that she would bend the body sharply forward to avoid putting the abdominal muscles into a state of tension. During the three weeks of suffering which I have described, she had become emaciated, the eyes were somewhat sunken, and below them were dark semicircles. She was somewhat under the influence of morphia, and felt no great pain when she kept perfectly quiet. Her mind was, however, greatly disturbed by the fear of the recurrence of what she termed "the cramp." The temperature was at this time normal, the pulse small and quick, the appetite almost abolished by the persistent use of morphia, and the bowels very much constipated.

A physical examination revealed the following state of things: The uterus appeared somewhat enlarged to conjoined manipulation, measuring three and a half inches from the os externum to the fundus, was in the position of right oblique anteversion, and was not so movable as normal; the vagina was soft, elastic, and enlarged as it is during pregnancy; to the left of the uterus I found, by vaginal touch, a tense, elastic cyst, which filled the whole iliac fossa, pressed the uterus to the right, and extended downward as low as a point a little below the os internum. Upon conjoined manipulation this cyst was found to be as large as the uterus in the third or third and a half month of

pregnancy. It was sensitive to the touch, slightly movable upon upward pressure, and, upon carefully practising *ballottement* upon it, I could feebly but distinctly get the evidence of a very light body which was thrown upward and fell on the floor of the sac. No doubt existed in my mind as to the recognition of this fact, and it was only after its recognition that I ventured to probe and measure the uterine cavity. Upon it I based the diagnosis which I then made of left tubal pregnancy at the end of the third month of development.

From the period of pregnancy, the repeated attacks of severe paroxysms of pain, the tenderness upon pressure, and the apparent tenseness of the distended sac, I was convinced that the occurrence of rupture was imminent, and urged immediate surgical interference. The husband and relatives of the patient were naturally very greatly perturbed at the announcement which I made, more especially since I was unable to hold out any bright prospect of recovery, even if operative procedure were resorted to.

On the 5th of February, one day after my visit, Dr. Marion Sims went out to see the patient; on the 6th Mr. C. called to request me to act as my judgment dictated in reference to the case; and on the 7th I performed the operation, which I now proceed to describe. On Sunday, the 7th, in company with Drs. J. E. Blake, J. B. Hunter, and S. Beach Jones, I went to Elizabeth, prepared to remove the fœtus by elytrotomy. The weather was intensely cold, the thermometer being at zero in Elizabeth. At the house of the patient we were met by Dr. Crane, Dr. Green being detained by a case of midwifery.

Before detailing the treatment of this case, I would remark that few cases of extra-uterine pregnancy have, during their early and progressive stages, been brought to a favorable conclusion by surgical means. For this there are four good reasons: 1. The doubt which usually attends diagnosis; 2. The danger of attending invasion of the peritoneum; 3. The dangers arising from septic absorption from retention of the fœtus or its envelopes; and, 4. The certainty of grave hæm-

orrhage from opening into the extraordinarily vascular nest in which the fœtus is contained. To meet the indications the following plans have been those generally adopted: 1. The operation of gastrotomy has been practiced, that the fœtal mass might be removed like an ovarian tumor; 2. The liquor amnii has been drawn off by a very delicate trocar, in order to diminish tension and check the growth of cyst; 3. The fœtus has been killed in situ by the passage of strong currents of electricity, or the injection into the sac of strong narcotics, like atrophia or morphia, with the hope that nature might, at a future time, cause its discharge, with the contents of the abscess which it usually creates.

The first procedure is attended by the dangers of peritonitis and hæmorrhage; and the second and third by those of hæmorrhage into the sac, septicemia, and subsequent formation and discharge of an abscess located just under the peritoneum. By the process which I now proposed to adopt I hoped to avoid the dangers of peritonitis by opening the fœtal sac by the vagina, passing up to it between the folds of the broad ligaments. Hæmorrhage, I thought, might be in great degree prevented by cutting into the sac by means of a knife rendered incandescent by a powerful current of electricity. And by complete removal of both fœtus and placenta, and thorough drainage of the sac by carbolized injections through a tube of glass or silver, kept in it, and discharging its contents by the vagina, I was sanguine of avoiding septicæmia.

I proceeded to adopt the plan from which I hoped for these results in the following manner: The patient having been etherized by Dr. Blake, was placed upon a table before a window admitting a strong light, in the left lateral position, and Sims' speculum introduced. Through this the cyst to the left of the uterus could be distinctly palpated. Now fixing a long-handled tenaculum in the cervix uteri, and another in the vagina near the left ilium, this part was by them put on a stretch so as to make of that side of the canal a triangle, the base of which was over the cyst, and the apex at the vulva. Assistants held

these tenacula during the operation. Taking the platinum knife of the galvano-caustic battery, which was brought to a white heat, I now passed it gently over the base of the triangle described as created in the vagina, carrying it from one tenaculum to the other. By repeating this the vaginal wall, over the lower segment of the cyst, was slowly cut through. In six minutes the cyst was opened by the incandescent knife, and a straw-colored, slightly-pinkish fluid was thrown out with such force as to fly into my face and over my clothing.

Thus far no blood whatever had been lost. I now passed my index-finger into the cyst, and felt a fœtus lying horizontally with the head toward the ilium, and the feet toward the uterus. Passing in the middle finger likewise, I caught the feet between the two, and turning the fœtal body, drew them through the artificial os which I had created, and delivered the child from the vicarious uterus which it occupied. The steps of the procedure exactly resembled those adopted in ordinary podalic version. The fœtal body advanced steadily until the arms reached the opening; then arrest occurred until they were swept out. The head was then arrested, and I strove to liberate it by manipulation and traction. Failing in this, I applied a pair of long-handled placental forceps, and at once it was extracted. The cord was then cut, and I proceeded to deliver the placenta by gentle traction and detachment, as is done after ordinary labor. Thus far thirteen minutes had been consumed.

At this point, the first difficulty which had attended the operation, showed itself. This was due to want of knowledge on my part as to the exact manner in which the placenta is attached in tubal pregnancy. Foreseeing this difficulty, I had carefully looked for information in the literature of the subject, but could find none which was of any practical value. I feared to detach the placenta with any degree of force, for the reason that I might, I thought, tear through the wall of the sac, and thus open into the peritoneum. For this reason, I proceeded less rapidly and vigorously than I should otherwise have done.

When I had separated a little over half of the placenta, a very severe hæmorrhage took place, and so much was the patient's condition depreciated by it in the two or three minutes of its duration, that I was unwilling to delay for the removal of more. Tearing the detached portion off, I passed a large gum-elastic catheter into the sac, and injected a solution of the persulphate of iron into it. This I was very sorry to be forced to do, but the hazard of delay was too great to allow of any other course. The flow of blood was instantly checked, but this was attained at the sacrifice of perfect drainage, and the leaving of the sac full of coägulated blood, and a portion of the placenta. Instead of inserting a drainage tube, I was forced to substitute a long tent of carbolized cotton, saturated with a solution of persulphate of iron.

In twenty-eight minutes from the commencement of the operation, the patient was put to bed, her head kept low, the foot of the beadstead elevated about six inches, ten drops of Magendie's solution of morphia injected subcutaneously, perfect quiet established, and a milk-diet ordered.

The fœtus being examined, was found to measure six and a half inches; and the placenta, which resembled closely one developed in utero, looked like one of three or three and a half month's growth. As it was not entire, it was not weighed or measured.

After this, all went well until the evening of the fourth day, when I withdrew the tent of cotton, and symptoms of septicæmia soon showed themselves. These yielded to constantly-repeated injections into the sac of carbolized water, at the end of a week. On the seventh day after the operation, slight hæmorrhage took place from the sac, but was without difficulty controlled by the addition of a small amount of solution of persulphate of iron to the carbolized water.

On the fifteenth day the remaining portion of the placenta came away spontaneously. On the sixteenth day evidences of an embolus in an unimportant vessel of the arm showed themselves, which created a small abscess, and about the same time

fears were entertained that phlegmasia dolens was developing. These last, however, proved delusive. Subsequent to this period, no evil symptom showed itself, the patient suffering from fæcal impaction, probably the result of interference with defecation by the obstruction exerted by the tumor, and the interference with peristalsis effected by the large amounts of morphia taken.

Six weeks after this operation, I examined by vaginal touch, and was surprised to find the opening made by the incandescent knife so completely closed that I found difficulty in ascertaining its exact location; and ten weeks after it, upon visiting Elizabeth to see another patient, I had the satisfaction of seeing Mrs. C. in her parlor receiving company, and presenting an appearance so markedly in contrast with that represented by the haggard and emaciated patient of February 4th, that, even after conversing with her, I was scarcely able to identify her as the same individual.

The appreciation of the sign of *ballottement*, which greatly aided me in arriving at a positive diagnosis in this case, has served me an equally valuable purpose in two others. On no single sign, however, should undue reliance be placed. During the first sixteen years of my practice, I saw no case of extra-uterine pregnancy. At the end of that period, I saw four in one month. During the past seven years, I have met with nine. Three of these I saw after rupture of the sac, the patients being *in articulo mortis;* two were put beyond question by gradual discharge of fœtal bones; in four cases I succeeded in making a diagnosis as positive as that which is detailed in this paper. In these, a certain conclusion was arrived at by coïncidence of the following conditions: (*a*) The existence of gastric, mammary, and pelvic symptoms of pregnancy; (*b*) a uterus smaller than should exist at the supposed period of gestation; (*c*) a sensitive tumor to one side of, or behind the uterus; and (*d*) pains extending from the pelvis down one thigh.

In three of these four cases I so distinctly obtained the sign

of ballottement as to be willing to lay a great deal of stress upon it in arriving at a decision, and in all of them having arrived at a conclusion with a good deal of positiveness, I did not hesitate to employ the uterine sound to assure myself of the position, capacity, and state of vacuity of the uterus. In a doubtful case dilatation of the cervical canal by tents would prove a valuable means of entirely excluding normal pregnancy. True, such a method would insure an abortion, if normal pregnancy existed, but if the probabilities were strongly in favor of extra-uterine pregnancy, and surgical relief appeared practicable in cases of its existenee, it would be a diagnostic resource not only legitimate but obligatory.—*N. Y. Med. Jour.*

ART. II.—SPLENECTOPIA. By J. M. TOWLER, M. D., Columbia, Tennessee.

Believing that the extreme rarity of this accident, as well as the obscurity which envelops the phenomena resulting from it, warrant me in putting upon record the following cases, I send them to you for publication in your "Journal of Medicine and Surgery."

On the 21st of February, 1847, I was called, about 1 oclock A. M., to see Ella Champ, a nymph du pave, aged about twenty-four years, who was, in the language of her landlady, "suffering enough, from colicky pains in her belly, to bring forth a brace of twins or pull up a good-sized sapling by the roots."

Whilst dancing, or as the aforesaid landlady expressed it, doing her level-best at an old-fashioned shake-down, with the double-shuffle and pigeon-wing thrown in, she had suddenly shrieked with pain, and placing her hand on her left side, had fallen fainting to the floor. She had never been married, but had given birth to a child when she was about sixteen years old. Catamenia regular, had occurred the previous week. Had always enjoyed remarkably good health, and never

seemed more cheerful and vigorous than on the night of the accident.

Abdominal exploration revealed a large, smooth, movable tumor, resting firmly upon the brim of the pelvis and the crest of the left ilium. Excluding the tumor, I should have diagnosed intussusception or internal strangulation, as the pain was referred, by the patient, exclusively to the stomach and bowels. The absence of pain in the tumor, and a peculiar hard, smooth, elastic convex feel, as well as the history of the patient, excluded the opinion of a gravid uterus.

Pain, the most intense and excruciating, continued, in spite of opiates and anodynes.

Upon the morning of the third day, intestinal obstruction was clearly indicated by stercoraceous vomiting, etc. Upon the ninth day, pain suddenly ceased, and she sank quietly in death.

An autopsy, twenty-four hours after death, discovered an hypertrophied spleen, broken loose, or separated from the diaphragm and stomach, and suspended over the pelvis by its peritoneal and vascular attachments alone. In making the descent, it had twisted the intestine upon itself, at two points—the ilium at about its beginning, and the left extremity of the transverse arch of the colon. At these two points the intestine was gangrenous, and broke down upon applying the flat of the handle of the scalpel. The spleen weighed nine and three-quarter pounds.

CASE II.—On the 12th of November, 1871, Mr. Bray, of this county, brought his wife to my office for examination. She was forty-eight years old, had given birth to ten children since her marriage, in 1846, two of them at one birth. Catamenia regular, and general health good, but much annoyed with flatulence and colic, attended with a peculiar drawing, dragging sensation, in the stomach and bowels.

Upon palpation, I found occupying the abdomen, a hard, smooth, elastic, oblong, and somewhat movable tumor, convex upon the surface, rounded upon the outside, and presenting

upon the inner a more or less attenuated edge, running downward from the epigastrium towards the left flank, with distinct, sharply-defined, marginal notches. By grasping the anterior margin, through the relaxed abdominal walls, the under surface could be clearly made out as concave. It seemed about six times as large as the normal spleen, and was movable to any part of the abdomen, though, when left to itself, it inclined to the left side.

I diagnosed enlarged and dislocated spleen.

About five months after that she was delivered of a fine bouncing boy, by her family physician, Dr. Higdon, of Lynnville, and quite a laugh was raised at my expense, for having mistaken a gravid uterus for a dislocated spleen.

I heard no more of the case until, in April, 1873, Mr. Bray sent for me to see his wife, in consultation with Drs. Higdon and Tucker, of Lynnville, and Dr. Williamson, of Culleoka. She was in bed, much emaciated, and anasarcous, with feeble circulation, no appetite, and much gastro-intestinal irritation. The tumor now occupied the entire abdomen, resting firmly upon the pubic and both iliac bones. We were all agreed that it would weigh at least fifteen pounds, and there was no doubt whatever but that it was a dislocated spleen.

Under the compound tinctures of cinchona and gentian, acidulated with chlorohydric acid, as a tonic, and the iodo-bromides as absorbents, she improved very much—in fact, so far regained her health as to be able to ride on horseback, and make visits in the neighborhood. At this time I proposed splenectomy, but it was declined.

At this date (March 17, 1875) her condition is almost hopeless. The tumor is about the same. She is emaciated and anæmic, her feet and legs œdematous, and her bowels affected with excessive colliquative diarrhœa, accompanied with profuse night sweats.

I shall not be able to confirm my diagnosis in this case, as in the other, for she has exacted a pledge, with all the solemnity of an oath, of her husband, that her body shall be buried in

her own yard, and watched, with double-barrel shot-guns, to keep the doctors from examining it.—*Nash. Jour. of Med. and Surgery.*

Art. III.—Plant Names.

The "Passion-flower," in which all the five emblems of the passion are to be found by the faithful, the nails, the crown of thorns, hammer, cross, and spear. "Christ's thorn," the cleditchia, from which the crown of thorns was supposed to have been made. Cruciform plants are all wholesome, "the very sign of the cross making all good things to dwell in its neighborhood."

Evergreens have always been held emblematical of the hope of eternal life. They were carried with a corpse and deposited on the grave by the early Christian, to show that the soul was ever living. An earlier Pagan use was when the Druids caused "all dwellings to be decked with evergreen boughs in winter, that the good spirits might take refuge there against the cold, till they could return to their own homes in the forests, when spring came back again." There is one group of plants named from human virtues and graces, quite independent of any qualities of their own: "Honesty," "Heart's-ease," "Thrift," "True Love," "Old Man's Friend," "Herb-o'-grace." Others from some resemblance to bird or beast: "Larkspur," "Crow-foot," "Crane's-bill," "Colt's-foot," the "Devil's-bit." where the root seems to have been bitten off, "Adder's-tongue," "Cat's-tail," "Pheasant's-eye," "Mare's-tail."

Each month had its own particular flower: The "Christmas Rose," the pretty green hellebore, snow-drops, "Fair Maids of February," the "May Flower," that covers the hedges with beauty, the "June Rose," the "Poor Man's Weather-glass," the pimpernel, closes when there is rain in the air; the "Shepherd's Hour-glass," by which he knows the time of day. The extreme regularity, indeed, with which many flowers open and

close at particular hours is such that Linnæus made a dial of plants, by which a man might time himself, as with a clock, by watching their petals unclose. The merely pretty allusions are many: "Venus' Looking-glass," "Love Lies Bleeding," "Queen of the Meadows," the beautiful spiræa, "Crown Imperial," "Monk's-hood," "Marvel of Peru," "Sundew," "Silverweed," "Goldie-lockes," "a moss found in marshy places and shady dry ditches, where the sun never showeth his face."

There remains a number of names which have accidentally been chosen to express particular ideas: "Lad's Love," given to your flame in the country when the swain's words are scanty:

> Violet is for faithfulness,
> Which in me doth abide.

The "Pansy" ("that's for thought"), or heart's-ease, still called in country places Love in Idleness, as in the Shakspearean compliment to Elizabeth in the Midsummer Night's Dream:

> Yet marked I where the bolt of Cupid fell—
> It fell upon a little Western flower,
> Before milk-white, now purple with love's shaft,
> And maidens call it "Love in Idleness."

"Rosemary" ("that's for remembrance"). "I pray you, love, remember," says Ophelia, in her madness. It was carried at funerals.

> Marygold, that goes to bed with the sun,
> And with him rises weeping.

And the marsh edition of it, "all aflame," as Tennyson describes it. "Speedwell," said the little blue veronica in the hedge to the old folk who went before us. "For-get-me-not," called the turquois blue Myosotis from the water as they passed by. "Bloody Warriors," the dark wall-flower, and bright blue "Canterbury Bells," filled their gardens. We pay for the convenience of our present nomenclature, by the piling up of Greek and Latin words, such as "Habrothamus," "Ortiospurmum," "Intybaceum," and the like. While the utterly irrelevant proper names, such as the "Wellingtonia," for a pine-tree belonging to the far West American mountains, scarcely even

heard of while the "Duke" was still alive—the roses dedicated to French marshals, most unfloral of men, are symptoms of our present poverty of language-making. The host of new shrubs and plants now continually introduced, require a more systematic kind of name-making than of old; but we can not help sometimes regretting the poetry of invention which has passed away from us, the loving transfer of our human thoughts and feelings to the inanimate things around us; the beautiful religious symbols into which our ancestors translated the nature about them, and which so often must have helped them to "rise from nature up to nature's God.—*Phar. Gaz.*

ANALYTICAL DEPARTMENT.

"Qui e nuce nucleum esse vult, frangit nucem."—PLAUTUS.

Hubert on Antenatal Baptism.—In the "Cours d' Accouchements," a recent work on obstetrics, by Dr. L. J. Hubert, Obstetric Professor in the Catholic University of Louvain, especially dedicated to the young gentlemen who come to that University to receive their medical education, the author finishes by a special chapter on the subject of antenatal baptism of infants.

When an infant is not in immediate danger of death, it is at the church and by a priest it should be baptized; but when its life is imperiled, baptism may be conferred everywhere and by everybody (ecclesiastic or laic, man or woman, believer or infidel), and is valid, provided it is administered with the intention, the material, and with the formula required.

Who, in case of peril, should administer baptism?

If the child be born, and a priest be present, he should always perform the rite. The father or mother may perform it only in the absence of any other qualified person. If the infant be born, and there be a man present capable of performing it, he

should do it in preference to any woman, or even a midwife. But if the fœtus be not born, baptism in utero should be administered, either by the obstetrician or midwife in attendance.

The general purpose or intention to do what the Church does is sufficient.

The material is water, pure water from spring, river, or well, and whether previously blessed or not.

The formula is; I baptize you in the name of the Father, of the Son, and of the Holy Spirit.

This formula should be articulated, and loud enough to be audible to the person himself.

The baptism is absolute or conditional according to circumstances, as we shall proceed to show. The manner varies as to whether the child is born or not.

A. If the child be born, the baptizer should himself pour water on the head of the child at three times, corresponding with the mention of the respective names of the Holy Trinity.

If there be any doubt respecting the life of the new-born, the formula should be modified thus: "If thou art living, I baptize thee, etc.

If there exists any doubt of the human nature of the being to be baptized (viz., if a marked monstrosity or rudimentary embryo), it should be added, "If you are a rational being, I baptize you," etc. Abortions should receive the rite in the same manner as the infant at term.

If the ovum should be expelled entire, the baptism should first be done through the membranes, saying: "If you are fit to receive baptism, I baptize you," etc.; then having opened the membranes the rite is repeated, adding: "If thou hast not been baptized." When the baptism is thus conditional, the conditions mentioned must be distinctly articulated; it is not sufficient to merely think or will it. Such is the canonical law.

B. Supposing the fœtus is still in whole, or in part unborn, it then becomes necessary to baptize it in utero, varying the method according to circumstances.

a. If the head be delivered it may be baptized either abso-

lutely or conditionally, as if the birth were completed, and no subsequent baptism will be required.

b. If an arm or a foot present, these parts should be baptized, and the danger persisting, the chest and the head should be baptized, with the formula: "If thou has not been baptized," etc.

c. But if the fœtus be still enclosed in the uterus, the baptism should be performed by carrying the fingers or a piece of lint, or sponge, or using a syphon or syringe, and with the formula as before stated, and modified according to the circumstances. After birth, it may be baptized, if alive.—*London Med. Record.*

Frequency of Aneurism in Different Countries.—In his late work on Diet, Dr. Chambers, referring to aneurism as connected with impairment of the powers of digestion, recommends his patients to exchange the climate of England, where degenerative disease is the rule and acute disease the exception, to Italy, where degenerative disease is the exception and acute disease the rule. It is in the absence of aneurism, he remarks, that this peculiarity of the Italian climate is shown. In the statistics of the Milan Hospital, but four instances of thoracic aneurism are noted in 61,761 patients, while in St. Mary's Hospital, London, there were 29 in 7,319 patients. That is to say, whilst in Milan there were but one case of aneurism in 15,440 patients, in London the proportion was as one to 252. In Genoa, he adds, the bills of mortality for 1860 gave not a single death from aneurism, whilst in London there were 103. He concludes that there must be something in the climate of London favorable to, and something in Milan and Genoa antagonistic to, the formation of aneurism.

We are rather surprised that so acute an observer as Dr. Chambers should base conclusions so important, and so extraordinary, if correct, on statistics which on their face are open to suspicion. Even allowing, however, some degree of force to the statistics of Milan and Genoa, we should seek an explana-

tion, not so much in the climate as in the individuals, the race, the modes of living, etc. Thoracic aneurism finds its subjects almost exclusively among men who perform severe labor in stooping and lifting; and it is possible the people of Italy are less given to violent muscular exertion than the more energetic laborers of England. It is probable that no part of the world exhibits a larger proportionate mortality from aneurism than San Francisco. Would it be reasonable to attribute this to climate?

Another consideration is worthy of note. A small proportion of aortic aneurisms are contracted at the locality where the patients die. This holds good certainly as to San Francisco, whose aneurismal cases are supplied largely from foreign ships. In short, we can not be too careful in drawing broad conclusions from narrow and uncertain statistical data.—*Pacific Med. and Surg. Jour.*

Plants as Doctors.—In addition to the pleasure that may be derived from floriculture, the sanitary value of flowers and plants is a feature of the subject so important as to call for special mention. It was known many years ago that ozone is one of the forms in which oxygen exists in the air, and that it possesses extraordinary powers as an oxidant, disinfectant and deodorizer. Now, one of the most important of the late discoveries in chemistry is that made by Professor Mantogazza, of Pavia, to the effect that ozone is generated in immense quantities by all plants and flowers possessing green leaves and aromatic odors. Hyacinths, mignonette, heliotrope, lemon, mint, lavender, narcissus, cherry-laurel, and the like, all throw off ozone largely on exposure to the sun's rays; and so powerful is the great atmospheric purifier, that it is the belief of chemists that whole districts can be redeemed from the deadly malaria which infests them, by simply covering them with aromatic vegetation. The bearing of this upon flower culture in our large cities is also very important. Experiments have proved that the air of cities contains less ozone than that of the

surrounding country, and the thickly inhabited parts of cities less than the more sparsely built, or than the parks and open squares. Plants and flowers and green trees can alone restore the balance; so that every little flower-pot is not merely a thing of beauty, while it lasts, but has a direct and beneficial influence upon the health of the neighborhood in which it is found. —*Appletons Journal.*

An Enterprising Feminine Quack.—A hand-bill has been liberally distributed in San Francisco, announcing that "Mrs. Davis" cures toothache, and that she can "convince any one having the toothache by stopping the pain in a few minutes, and showing the worms on the receiving iron as they drop from the teeth." There is a neat little trick in this. The remedy is placed on a hot iron, and the vapor from it conducted into the mouth by a funnel. The "worms" then show themselves on the funnel or on the iron. Dr. Harkness stated to the San Francisco Microscopical Society, at a late meeting, that he had examined them microscopically, and found them to be—not worms or animals of any kind, but vegetable products coming from the preparation employed. This preparation consists of onion seed mixed with butter. By exposure to heat the germs of the onion are detached from the shell, and lodging against the sides of the funnel or on the iron, they present some resemblance to worms.—*Ibid.*

Benzoic Acid in the Treatment of Ammoniacal Cystitis.—Gossellin and Robin ("Archiv Gènérale de Medicine"—"Boston Med. Journal") publishes a series of experiments intended to throw light upon the peculiar danger in operations on the urinary organs when the urine is ammoniacal.

From these they conclude: Ammoniacal urine rapidly causes fever. It is highly poisonous, and its toxic effects increase proportionately to the amount of carbonate of ammonia which it contains.

The local lesions experimentally produced explain analogous

local lesions observed in man where wounds are in contact with ammoniacal urine. The visceral lesions agree with those found in subjects who have died of urinary fever. The toxic action of ammoniacal urine is enhanced by the access of air.

To correct this state of the urine the authors advise the use of benzoic acid. The initial dose is fifteen grains, to be increased to forty or sixty, or even ninety grains. The action of this remedy upon the altered urine is not at once recognized, but in seven or eight days the ammoniacal character and fetidity generally disappear and phosphatic deposits cease to form. This remedy acts in several ways. The hippuric acid resulting from the use of benzoid acid may form hippurate of ammonia, which is less toxic than carbonate of ammonia. It retards the decomposition of the urine, and hence the production of carbonate of ammonia. It prevents the formation of insoluble phosphatic deposits, which may cause cystitis. The use of benzoic acid is advisable for patients suffering from ammoniacopurulent cystitis—particularly those about to undergo operations upon the urinary organs.

CLINICAL RECORDS.

"Ex principiis, nascitur probabilitas: ex factis, vero veritas."

ART. I.—HYDROPHOBIA—CASE. By WIRT JOHNSTON, M. D., Jackson, Miss.

Supposing that it may be of interest to the readers of your valuable Journal, I send you a brief account of a case of rabies that has recently fallen under my notice. It presents nothing of special interest, and there is nothing new in its features, and the treatment adopted is far from teaching any valuable lesson in therapeutics, as the result of my case will show. But as it is a rare affection, and as we hear of rabid dogs in dif-

ferent parts of the country, it may have the effect of putting members of the Profession on their guard, and induce some to adopt prophylactic measures in dog-bites who otherwise neglect this important step. The measures referred to are, of course, excision and effectual cauterization of the wound.

This is the first and only case of the disease I have ever seen in the human species, and as you will see, its nature was not recognized on my first visit; an occurrence I think quite natural.

Was called to see my patient, a negro boy about four years of age, at 8 o'clock P. M. on the 7th of July, and learned from his mother that upon her return home at 3 o'clock P. M., she having been absent most of the day, found her child in bed, having chilly sensations, a sighing respiration, a wild, excited expression, and cutaneous hyperæsthesia, evidenced by fanning him, which caused shuddering tremors. Upon examination, I found his pulse full, strong, quick, and increased in frequency. His temperature increased perhaps a degree or two, but of this I judged by my own sensations, not having my thermometer with me. Tongue furred, and his bowels constipated. Prescribed for him a mercurial cathartic, and sulphate of quinia with sulphate of morphia, and ordered him to be put in a tepid bath. Not feeling satisfied with his condition on my first visit, called to see him again early the next morning, the 8th instant. On entering the room I was struck with his appearance. He was sitting up in bed, and while he seemed to be rational, answering questions intelligently, his expression was wild, and indicated great distress, and every movement was indicative of great nervous irregularity. I soon discovered there was the most exquisite cutaneous hyperæsthesia. Even the slight current of air produced by passing my hand slowly in front of his face being sufficient to produce laryngeal spasm, and singular nervous paroxysms almost amounting to convulsions. Opening a door and letting in the slightest current of air, or admitting the faintest ray of light had the same effect. He asked for water shortly after my arrival, it was brought, and the mere sight of

it produced those peculiar convulsive movements, with laryngeal spasm almost amounting to suffocation. He grasped the vessel, and after frantic efforts brought it to his mouth with convulsive movements, attemping to drink precipitately, only to demonstrate his inability to swallow more than a few drops. His thirst was intense; his respiration embarrassed and sighing, and he complained of a constriction about his chest. He said that ants were biting him, and made constant movements with his hands, as if to remove them from his chest. The convulsive movements were always present, but were increased by draughts of air, light, etc.

Upon examination, I found his pupils natural; there was some heat of head; trismus was not present, and the convulsive movements, instead of being tetanoid, were brief. Of course, under these circumstances, I at once thought of rabies, and it was only after the most pressing inquiries that I elicited the fact that my patient had been bitten by a well-grown puppy in the street between four and five weeks previous to my visit. Upon examination, I discovered two cicatrices on the right leg in its inferior third, evidently made by the tusks of the animal. There was no unhealthy appearance, and I was told that the child had complained of no morbid sensations about the cicatrices.

Never having seen a recovery recorded from an undoubted case of the disease, and knowing that the numerous plans of treatment that have been tried proved utterly futile in arresting its progress, I determined to try something new, and felt fully justified in doing so. My patient having had several bilious discharges from the mercurial given the previous night, I put him on five-grain doses of hydrate of chloral in solution, to be repeated every two hours until quiet. But this so much wished-for condition was never brought about. He was extremely restless up to the time of death, having occasional convulsions during the day, and not sleeping at all. From the supposed antizymotic action of salicylic acid, I concluded to try this agent, and ordered the following mixture:

℞—Acid Salicylic, gr. xvj.;
Mucilag Acaciæ, f℥j.—M.

S.—Teaspoonful every three hours.

But despite this my patient continued to grow worse; finally becoming delirious, and having well marked convulsions. A few hours before death he became violent, and made efforts to tear his clothing with his teeth, and to bite himself, but I am not aware he made any attempt to bite any of the bystanders. When the vital powers began to fail, of course, active stimulation was resorted to. On my last visit, about one hour and a half before his death, there was a profuse secretion of mucus and saliva flowing in a stream from his mouth. He died about 10 o'clock P. M., a little more than twenty-four hours from my first visit.

It would seem this attack was quite sudden, as the child's mother tells me he had not complained up to the evening he went to bed, and said there was no premonition whatever, but this statement must be accepted with reserve, as negroes are not close observers.

The dog that bit this patient, at the same time bit a little white girl living in that vicinity, she, I am told, has manifested no symptoms of the disease up to this time. But it may be she will in the course of time, or, it may be she will not have the disease at all, as it is stated a large proportion of those bitten escape entirely. Certainly the safest procedure in her case would be to excise and effectually cauterize the cicatrices.

I spoke of the mere sight of water producing convulsive movements; this I would not attribute to a dread of this fluid, but suppose it was due to his great thirst and consequent anxiety to receive the fluid.

I forgot to mention that the dog was killed immediately after bitting the children, having been pronounced rabid by some one standing near.

This was certainly the most distressing case of disease I have ever witnessed. No one not having seen the disease can form an idea of its inconceiveable horrors, the wild, terror-stricken

expression of countenance, and attendant convulsive movements, the insatiable thirst, and the frantic and futile efforts to swallow fluids, while reason remains enthroned, makes up a picture which once seen is never to be forgotten.

PROCEEDINGS OF SOCIETIES.

"Etsi non prosunt singula, juncta juvant."

[Note.—In the July Journal, there appeared an editorial comment upon the case reported below. It was declared in that notice, that no one could justly assume that the hypodermic injection of one-sixth of a grain of morphia could have produced the death of this patient. It was also stated that the facts reported, warranted the belief that the patient had died of uræmic convulsions and coma. It is believed that all who read this report carefully will be convinced of the fact, that all of the symptoms were due to the poison of urea. Few, if any, can believe that there were any evidences of the toxic effects of morphia in this case. The case is so interesting and important in its clinical, therapeutic, and medico-legal aspects, that it is reported at length.—E. S. G.]

Puerperal Convulsions and Death.*

Dr. Hunter McGuire reported that on Saturday night last, about 9 o'clock, he was called to a lady, probably thirty-five years old, who was seven months advanced in pregnancy. She had been confined to her house for three or four months in consequence of threatened miscarriage; labor pains and discharge of blood following the slightest exercise. She was a large, muscular, and rather plethoric woman. He found her suffering from what appeared to be colic. The pain was paroxysmal, præcordial and violent, and was the supposed result of a glass of ale which she had drunk during the day. She had vomited freely before his arrival, throwing up some milk which she had taken a few hours before. A mustard poultice was applied, and a mixture of ginger, camphor-water, and soda was admin-

* Drs. McGuire and Wellford have each revised the reports here given of their speeches.

istered, but at once rejected by the stomach. As the pain continued and miscarriage was feared, the Doctor gave the lady hypodermically five minims of Magendie's solution of morphia. This small dose was used because the patient was very susceptible to the influence of all medicines. He stated the dose employed (five minims) to the lady and her husband, because of his intention to repeat the injection if she was not relieved. He noticed some œdema about the lady's face, which the husband ascribed to the retching and vomiting. He has since learned from the family that she was kept awake the whole of the previous Thursday night by pain in the head. In about twenty minutes after the hypodermic administration she expressed herself relieved from the pain, and the Doctor left, after directing a mixture of ginger, soda, and a few drops of chloroform to be obtained, and given if the pains returned. At 12 o'clock that night Dr. McGuire was again sent for to see this lady, but being out of the way he did not get there until $2\frac{1}{2}$ o'clock, when he found her dead. He obtained the following history from her husband (a very intelligent gentleman) and others in attendance upon her: For probably three-quarters of an hour after he left, the patient remained so quiet that her husband thought her asleep; at the end of this time she moved, and he spoke to her; she said she had not been asleep, but felt so quiet and composed that she was content to keep still. The Doctor was under the impression that her husband supposed she had slept, but was unconscious of it. She complained of her head, and asked for some bay rum to bathe it with; she talked to her husband about other things, and at last begged him to get a pillow and lie down, that there was no necessity for his sitting up any longer with her. Probably about twenty minutes after this he was aroused by her stertorous breathing; when he got to her he found her in a semi-comatose condition, from which he aroused her with difficulty. When she awoke she was frightened; complained of her head, and was trembling violently; said she could not hold herself still, and immediately after this had a convulsion. As soon as the convulsion ceased

the husband left her to summon the servants, and send for Dr. McGuire and any physicians in the neighborhood. When he returned he found her unconscious and with stertorous breathing. Soon after this Dr. Charles Macgill arrived. Although in a semi-comatose condition, she was sufficiently aroused when he came in to recognize and speak to him. Dr. Macgill gave her an enema of assafœtida, ℥j., which was quickly obtained from a druggist in the neighborhood. He also gave her aromatic spirits of ammonia. In a short time after this was done another convulsion came on much more violent and of longer duration than the first. The muscles of her face and trunk and limbs violently contracted; there was for a time some opisthotonos. Her respiration was broken and stertorous. Foam issued from her mouth, and along with it blood from the lacerations of her cheek and tongue. The muscular rigidity was succeeded by jerking of limbs and face. This convulsion was followed by coma. Soon after this Dr. J. S. Wellford, arrived, when, at his instance, the ounce of assafœtida was repeated, and as soon as it could be gotten, an injection made of a solution of caffeine. A solution of atropia was sent for, but arrived after the lady's death. When Dr. W. arrived both pupils were contracted; a short time before death one pupil dilated, the other remaining contracted.

Dr. O. Fairfax remarked that he had known large doses of camphor to produce spasms.

Dr. Charles Macgill stated that he was satisfied, from the symptoms as he saw them in the lady whose case has been reported by Dr. McGuire, that she was laboring under the effects of morphia. The pupils were obliterated to pin-points.

Dr. J. S. Wellford stated that he considered the case in every respect exceptional. When he arrived, a short time before her death, her condition was as follows: Pulse about 70, weak, slow, and failing; stertorous respiration; inspirations not more than 8 or 10 per minute; coma so profound that she could not be aroused by any means; pupils contracted to pin-points. This, with the antecedent history furnished him that she had

slept after the injection, then aroused, and afterwards fell into a comatose condition, and the convulsions had occurred with this initial stertorous coma, without any appearance of œdema in the lower extremities, or apparent uterine disturbance, inclined him to the belief that the morphia, through some idiosyncrasy, had caused the condition in which he found her. On any other theory she was then moribund, but remembering the apparently hopeless situations from which some persons are rescued in opium poisoning, he hoped that perhaps a stimulant treatment for a few hours might relieve her. One grain of caffeine was injected in left leg, and in a few moments the left pupil dilated; another grain was, fifteen minutes afterwards, injected in the right leg, when soon after the right eye dilated, but that was attributed to the relaxation immediately preceding dissolution. A solution of atropia and the galvanic battery was sent for, but before they were brought she was dead. In considering this case, we are met by difficulties on either hand. Regarding it as he did, as a case of opium poisoning, the first difficulty is the small quantity of morphia used, which should not be at all dangerous in ordinary circumstances. Still, we know that some idiosyncrasies are remarkably intolerant of opium in any form and in any dose. In the report of the Medico-Chirurgical Society of London on Hypodermic Injections, we find two cases of death from half a grain of morphia, and one case where one-quarter, and another where one-third of a grain produced symptoms requiring the most active treatment to ward off a fatal termination. Harley (Old Vegetable Neurotics), one of the most recent and reliable authors on this subject, relates cases of the hypodermic injection of morphia, where 1-15, 1-12, 1-7 of a grain, and even six minims of laudanum, produced such symptoms as indicated great disturbance of the nervous symptom and even danger. He always lays down the rule where small doses produce certain symptoms, larger doses will always, in the same individuals, cause the same only in greater intensity. Now, this lady was not only very susceptible to all medicines, but, as he was informed, especially

suffered from opium whenever administered. Harley, then, as if describing this very case, sums up in the following quotation: "And amongst women, individuals of a highly emotional, excitable, and energetic temperament are those to whom opium in any form is a very distressing remedy, and when hypodermically used, a most dangerous one." Now, in this case, believing the presence of this idiosyncrasy, aggravated by her long confinement to the house (four months), the anxiety relative to miscarriage, the presence of pregnancy itself, the increased activity of all drugs when hypodermically used (Anstie states it to be three or four times as active), he thought that the effect of the small dose could be readily accounted for. Besides, we have recorded one death in a man from four grains of opium by the stomach, when, remembering the relative strength of morphia and opium, and multiplying that by the maximum increase stated by Anstie, we very closely approximate that amount. Again, Harley states one case (page 197) in a horse where one-fourth grain of atropia used hypodermically produced as much effect as four grains dissolved in a pint of water, or 480 grains of the extract of the root or leaves administered by the mouth. Dr. W. also remarked, with regard to puerperal eclampsia, that it is entirely exceptional that it should come on without some prodromic symptoms which would have been detected; that while in chronic cases of Bright's disease the coma may precede the convulsions, in eclampsia the reverse is undoubtedly the rule; that while Barker reports two cases where the pupils were contracted, most, if not all, other authorities state that the pupils are more or less dilated unless effusion or hæmorrhage occurs. Again, most authorities object to the use of opium in eclampsia, certainly before depletion, for fear fatal narcotism may be prodcced by the congestive effect of the remedy in a brain already overpowered by the contamination of the blood.

Dr. R. T. Coleman believed this to be a case of puerperal convulsions—not of opium poisoning. The absence of œdema is no proof that the patient was not laboring under uræmia.

True, opium does contract the pupils, and they are usually dilated in puerperal convulsions, but there are exceptions, as he can testify from his own experience. He has seen violent convulsions ensue in puerperal cases where there was only slight puffiness of the eyelids and back of the hands. Indeed, even where there is no puffiness of these parts and no albuminuria, the nervous state of the plethoric puerperal woman renders her peculiarly liable to be thrown into convulsions by the most trivial causes, such as occurred in the case under discussion. He had over and over again seen puerperal convulsions preceded by the præcordial pain here described. The cry of the patient is, first, "Oh, my stomach!" and then soon afterwards, "Oh, my head!" Such convulsions, however, can not be anticipated with any degree of certainty. There was certainly no sin of commission on the part of the physician in this case. It was impossible, he thought, for one-sixth of a grain of morphia to produce so serious a result. Possibly the action of an emetic and venæsection might have been of some service in averting the sad termination of this lady's life.

Dr. J. B. McCaw had had the misfortune to meet with cases of puerperal convulsions like that described by Dr. McGuire, with the exception that no opium—no medicine, indeed—had been used. Dr. McGuire will remember the case of a lady living near him, under Dr. McC.'s care, who ate a small piece of water-melon at 11 P. M., had a violent colic at midnight, convulsions at 1 A. M., and was dead at 3 A. M. This lady was also at her seventh month of pregnancy. He had learned to dread in the pregnant woman the development of cramps, followed by præcordial pain and preceded or attended by headache. The number of convulsions which may occur in any given case is not a measure of the gravity of the condition. He related some cases which had come under his own observation confirmatory of the above remarks in which no opiate had been given. In following out the history of the salient points in the case before the Academy, the intensely nervous temperament of the patient, the taking of crude ingesta in the after-

noon, the development of the abdominal cramps which soon developed into præcordial pain, and in a short while mounted to the head, increasing the headache, the occurrence of vomiting, etc.; the sequence, in short, of cause and effect, led him to the belief that this was a case of puerperal convulsions. The patient died too soon for dilatation to occur.

Dr. W. W. Parker did not think that the small dose of morphia given had anything to do with the death of this lady. He had seen exactly such convulsions when no form of opium had been given. He recalls just now that he was called about two years ago to a man who complained of severe temporal pain, which was relieved when the patient went near the fire and became thoroughly warmed. Previously the man had had no convulsions. The Doctor gave no morphia, but ordered salts, and left without any apprehension of serious results. After several hours he was recalled to find that his patient had had a slight convulsion, and was dead. The symptoms, as described to him by the family, were so similar in character to those which mark the case of this lady that they seem to be due pretty much to the same conditions of the brain. Had he given opium, that remedy would probably have been made to bear the blame.

Dr. L. B. Edwards thought the case one primarily of reflex irritation—an illustrative case of what has been styled "puerperal epilepsy"; that is, the occurrence of epileptiform convulsions, not necessarily dependent upon albuminuria or renal trouble, but due primarily to uterine irritation. This condition by reflex action irritated the base of the brain, and gave rise to convulsions. Such irritation not unfrequently causes contraction of the pupils. At length, as the result of the convulsion, either rapid effusion of serum or cerebral hæmorrhage occurred on one side, which caused dilatation of one pupil, while the other pupil remained simply under the influence of the reflex irritation. The caffeine injected in the thigh, in his opinion, had nothing to do with the dilatation of the pupil unless indirectly. In fact the physiological action of caffeine,

as stated by Dr. Alexander Bennett* after a series of experiments, is usually to contract the pupil.

Dr. Parker remarked that another proof that the dilatation was not the result of the caffeine, was found in the fact that the dilatation occurred too soon after the injection—in less than half a minute. Morphia when injected in the extremities is not so rapid in its action.

Dr. James Beale remarked that the views he entertained had been so fully stated that he would only add that he believed the case to have been one of puerperal convulsions, followed by effusion on one side of the brain, which was the immediate cause of death.

Note.—It is just to Dr. Wellford to state that a committee was appointed to investigate the charge of his having made statements derogatory to the professional treatment of this patient, and that the committee unanimously exonerated him.—E. S. G.

ORIGINAL CORRESPONDENCE.

"Sit mihi Fas scribere audita."

London, Eng., July, 1875.

Dr. E. S. Gaillard:

Dear Sir,—Dr. Swayne of Bristol writes an interesting paper on adhesion of the placenta. His remarks are to the following effect: The intra-uterine diseases of the fœtus and placenta, and also of the gravid uterus, are very little known. Most authorities attribute placental adhesion to inflammation of the lining membrane of the uterus, probably rheumatic; others, as Sir J. Simpson, to inflammation of the placenta. The presence of adhesion is of course a most dangerous cause of after-bleeding. Dr. Swayne can not, from his own experience, solve the question, as he has never had an opportunity of examining such a case

* Edinburgh Medical Journal, Oct., 1873.

post mortem. He has never in these cases got any satisfactory history of severe localized pain in the womb. In these cases, however, there are found beneath the amnion as it is reflected over the placenta various deposits of lymph having the appearance of tubercles, being more plentiful towards the circumference of the placenta, in some cases there is formed a firm consistent layer between amnion and placenta of a deep yellow color, which shrinks especially at the circumference and makes the placenta cup-shaped, not unlike a very buffed and cupped clot. This state of things does not affect the fœtal nutrition, and he has found it without adhesion. The lymph tears with difficulty into fasculi, it is very granular and undergoing fatty dgeneration, showing that the deposit is of some age. Placental adhesion is generally said to be rare. Dr. Churchill, in his private practice in Dublin, had only to extract ten times out of 2,547 cases for flooding, irregular contraction and morbid adhesion. In 1874 at the Rotunda Hospital, Dublin, there were only two retained placentæ out of 1,236 cases. Dr. Swayne's experience is different, he has had altogether forty-three cases of adherent placenta. During the first ten years he had none, but in the last ten years he has had thirty-seven cases out of a total of 576. This difference he associates with the fact that his patients in the first ten years were poor people, in the last ten years people well off, and this he has proven by reference to names and addresses. He believes it is due to gouty diathesis induced by overfeeding and too little exercise, not to alcoholism or syphilis. This experience is opposed to that of Dr. Ramsbotham, who believes it to be commoner among the lower classes. With regard to Dr. Churchill's experience, also among the better classes, he ventures the supposition that the Irish eat less animal food than the English, or have some different habits of life. Of the 43 cases which Dr. Swayne has had, 12 were primipara, 31 pluripara; of these 31, in 5 cases the placenta was adherent in more than one confinement; thus in 4 patients it had to be removed twice, in one five times. In the last case it had to be removed for adhesion in

the third and fourth confinements; for hour-glass contraction in the fifth; for hour-glass contraction with adhesion in the sixth and seventh. In 18 cases out of the 43 adhesion was complicated with hour-glass contraction, in 25 it was non-complicated. In the 43 cases there were 2 deaths, but in neither was the death due to the bleeding or blood-poisoning. One case was that of jaundice and albuminuria, necessitating delivery in the seventh month. Death was from "shock" on the second day. The placenta was much hypertrophied and fatty. The other case presented some symptoms of ruptured uterus, no rent could be discovered by the hand, but no post mortem was obtained; there was a hydrocephalic child which was expelled by three or four pains, and from that time the mother suffered most acute pain. Death followed in a few hours; there was no considerable bleeding. Diagnosis, says Dr. Swayne, rests on irregular and violent contractions of the womb in the after-birth period, and especially if the cord on being pulled gently springs back, though there is no uterine spasm. The hand should always be introduced, and no reliance should be placed on any drug. The hand has sometimes to be kept in the uterus for half an hour. Dr. Swayne inserts the left hand and presses on the fundus uteri with the right. On following the cord up, the uterus tightly contracted and embracing the cord is apt to be mistaken for the placenta. (He repeats the oft-repeated advice not to pull the cord). He supposes that in the above case practitioners have sometimes separated the uterus from the vagina of the posterior cul-de-sac, and torn the uterus away after having got their hand into the peritoneal cavity. We should rather doubt this, knowing the firmness of the uterine attachments and the force required to separate them in post mortem examination. It is most necessary to steady the fundus, so as not to stretch the utero-vaginal attachments. The remainder of his paper describes the usual method of introducing the hand, expanding the os uteri, separating adhesions with the finger-tips, if necessary, by a sawing motion of the nails, and ends by cautioning practitioners against leaving portions behind.

Mr. Robert Torrance gives an ingenious method which he has used for removing a foreign body (part of a rabbit's scapula) from the œsophagus. The pharyngeal forceps had been unsuccessfully used, and traction with them had produced some rather free bleeding; the bone had been lodged for four days; there was inability to swallow, and œsophagotomy was indicated. It is hardly necessary to say that emetics and anti-spasmodics had been used ineffectually. The instrument which he eventually used was a sort of cat-o-nine-tails of suture wire ending in lead pellets. These he managed to get below the foreign body. By some manipulation he managed to get the pellets and ends of the wires entangled on the gastric side of the foreign body, and was thus enabled to remove it.

Dr. Munro gives some interesting observations on the antagonism between chloroform and amyl. He gave chloroform to a cat till one minute after the cornea had become insensible, then let her recover. Sensibility returned to the cornea in two and a half minutes, and in five minutes she began to move her limbs. When quite recovered, she was again chloroformed and nitrite of amyl used. She recovered in half the former time. He observed that his wife, who accidentally became overpowered by the nitrite of amyl vapor, was quickly recovered by inhalation of chloroform.

The "Levant Herald" says a telegram has been received from the Commission sent to inspect the District of Mesopotamia stricken with the bubonic plague. The disease has spread beyond the Montefite Arabs, destroying many lives. In three localities the numbers of deaths were 500, 800, and 1,000 respectively. Death occurred generally on the second or third day after the appearance of premonitory symptoms. In some districts the disease is dying out, in others it is spreading. The infected district is marshy, and the inhabitants dwell in reed huts and live by growing rice; the various settlements communicating by boats. There had been heavy rains, and also famine, at the beginning of last year, and from that time there had been cases of plague. At present, however, there is no

mention of famine. Out of a population of 735, 533 were attacked, and 208 died. The "Times" remarks that since the seeming cessation of the plague in 1844, there have been seven outbreaks—viz., in Eastern Arabia in 1853; in Benghazi in 1858; on the lower Euphrates in 1867; in Persian Kurdistan in 1870, and three during 1874 on the lower Euphrates, Western Arabia, and Benghazi. OCCASIONAL.

CHEMICAL AND PHARMACEUTICAL.

"Diruit, ædificat, mutat."---HOR.

Pilocarpine—the Active Principle of Jaborandi.—Mr. A. W. Gerrard has communicated to the "Pharmaceutical Journal" that he has separated an alkaloid from jaborandi which is the active principle of the drug, and which he calls pilocarpine. Half a grain produced the full effects of jaborandi. The following is the mode of preparation:

Prepare a soft extract either of leaf or bark with 50 per cent. alcohol. Digest this with water, filter and wash. Evaporate the filtrate to a soft extract, cautiously add ammonia in slight excess, shake well with chloroform, separate the chloroform solution and allow it to evaporate; the residue is the alkaloid pilocarpine with probably a small amount of impurity.

Besides the alkaloid, jaborandi contains an acrid resin, tannic acid, volatile oil, and chlorophyll. The acrid resin is soluble in ether, and possesses properties which indicate it to be the substance by which the effects of its external application are produced.

Atropia an Antagonist of Jaborandi.—Drs. Sydney Ringer and Gould having discovered that atropia arrests the salivation and diaphoresis produced by jaborandi, a fact which Vulpian has also observed; the latter has performed experiments to see if atropia has also a similar effect on other secretions

increased by jaborandi. He first demonstrated in a very clever manner by means of canulæ introduced into the canal of Wirsung, ductus choledochus, and the ureter, in dogs curarized and subjected to artificial respiration, that the pancreatic, biliary, and urinary secretions were increased to a very notable degree by the injection of an infusion of jaborandi leaves into the crural vein in the direction towards the heart; he then observed that the pancreatic secretion was completely arrested a few minutes after the injection of one-third to one-half of a grain of atropia in an aqueous solution.

The biliary and urinary secretions were diminished considerably under the same conditions, but they did not stop altogether. In one of his experiments, where the stomach was opened before the injection of jaborandi (an infusion of a little less than a drachm of the leaves to the ounce of water) he saw a certain quantity of fluid flow from the mucous membrane of the stomach; after observing the fact, he shortly afterwards injected a similar infusion of jaborandi, but followed it by an injection of one-third to one-half a grain of atropia, and the appearance already noted did not then take place.—*Gaz. Hebdom.*

A New Use for the Marsh-Mallow.—According to a statement in "The Garden," gypsum mixed with four per cent. of powdered marsh-mallow root, will harden in about one hour, and then can be sawn or turned, and made into dominoes, dice, etc. With eight per cent. of marsh-mallow, the hardness of the mass is increased, and allows of its being rolled out into thin plates, and painted or polished.—*Phar. Jour.*

Ergot as an Antidote for Excessive Secretion of Milk and Inflammation of the Breast.—A gentleman rejoicing in the unpronounceable name of J. Schtscherbinenkoff has made the interesting observation ("Centralblatt für Chirurgie") during an epidemic of secale cornutum in the district of Simbirski, that amongst the symptoms of ergot-poisoning is the diminution or

complete arrest of the secretion of milk in lactating women. The same result was found to occur in cows that had been fed on meal which contained ergot, or that had been littered with carelessly threshed straw which still contained some affected ears. Schtscherbinenkoff conceived the idea of employing it as a remedy in cases of threatened abscess of the breast, and carried it out in many cases with great advantage. Two multiparæ who had suffered at each previous confinement from abscess of the breast, took some of the drug with the happiest result, as soon as swelling began to appear, accompanied by congestion of the gland with milk. He has also administered ergot and quinine, in doses of three grammes (?) of each, twice or thrice a day in cases of so-called milk fever, and has found the drug useful in cases of swelling of the breast accompanied by fever in other than puerperal women, as well as in those where it is required to wean the child either at the normal or earlier period. He has exhibited as much as a drachm of ergot daily for a week without observing any unpleasant result.—*Chemist and Druggist.*

Wine Without Grapes.—We never expected to see the manufacture of wine without the juice of the grape defended by any reputable authority; but this seems to have been done at a recent session of the International Viticultural Congress, at Montpelier, France. On that occasion M. Saint Pierre, a professor in the medical college of that city, gave some facts in regard to this fabrication of imitated wines, a branch of business which has of late rapidly developed in Hérault, especially at Cette and Mèze. The product of this manufacture is mostly exported, the bulk being sent to Russia, Denmark, Holland, England, and North and South America. Cette alone makes nearly 8,000,000 gallons per annum, worth about 15,000,000 francs, or $3,000,000. Two-thirds of this is consumed in America. The only wines that can be successfully imitated are those rich in alcohol, such as the wines of Spain and Portugal. It is not true that grape-juice is the only thing omitted in the

composition of these wines, as that is the cheapest ingredient. Nor is coloring matter used to any extent, as the wines to be imitated are white. The Portuguese formerly colored their wines with elder-berries, but abandoned it on finding that it injured the wine. The imitation of Spanish wines utilizes a large amount of cheap wines in the south of France, the production of which has been stimulated of late years. These wines show scarcely 11 per cent. of alcohol, but with the addition of syrup of mulberry and alcohol the strength is raised to 21 per cent. The professor, with great frankness, pleads for the encouragement of this industry. The members of the congress visited Cette and Mèze, and inspected several manufactories. One of the largest at Cette had then stored over 280,000 gallons in cellars containing from 80,000 to 100,000 gallons each. The total value of the whole deposit is stated at $200,000. At Mèze one establishment astonished the visitors by the vast extent of its cooper-shops, and its steam-engines of great power pumping the wine from great cisterns into the casks.

Carbolic Acid as an Anthelmintic.—In a case of tænia this acid was given at first in doses of six grains four times a day; but this proving ineffectual, two grains were ordered every hour, with the result of expelling the worm, head and body, on the third day. This acid has been recommended and employed successfully by Decal Lemaire, and others, in the form of clysters, for the relief of ascarides; but this is, we believe, the first instance of its use in this field.—*Allg. Wien. Med. Zeit.*

Boracic Acid as an Antiseptic.—In a series of articles on "Recent Improvements in the details of Antiseptic Surgery," publishing in the "Lancet," Prof. Lister, F. R. S., gives an interesting account of his acquaintance with boracic acid: About three years ago Dr. Stang, of Sorweg, in Norway, being on a visit to Edinburgh, informed the Professor that a new antiseptic had been discovered in Sweden, and was extensively used in that country for the preservation of articles of food, and also

as an application to wounds. The "aseptin," as it was termed, was in two forms, a powder and a liquid, the latter receiving the additional title of "amykos." On returning home, Dr. Stang sent samples, at the same time stating that the active principle of both the articles had been ascertained to be boracic acid, the virtues of which had been discovered by Mr. Gahn, a chemist in Upsala.

Trying them on himself, he found both the new antiseptics, when employed in the form of watery solution, highly efficient and much less irritating than carbolic acid.

Boracic acid was then little more than a chemical curiosity. But he succeeded in obtaining in Edinburgh a sufficient quantity to enable him to test its properties unmixed with other ingredients. Some striking instances of its antiseptic efficacy as well as of its therapeutic value were soon witnessed, and now the solution, as well as boracic lint and other preparations, are being extensively used.

Phosphoric Acid in Ergot.—Professor Levi, of the University of Pisa, has just made known, as the result of numerous analytical and experimental researches, that the physiological, therapeutical, and obstetric properties of ergot of rye are due to the presence of phosphoric acid, which it contains in abundance, much more than to its organic principles (like ergotin, ecbolin, etc.), to which, until now, had been exclusively ascribed all the various actions of the substance.—*Phil. Med. and Surg. Rep.*

The Powers of Mineral Water.—Perlet, the well-known actor, whose leanness is described as "something phenomenal," naturally desiring to get "some flesh on his bones," a well-known physician of Paris advised him to go to one of the bathing places in the Pyrenees. Perlet accordingly went off to the prescribed locality, where he drank and bathed with the utmost zeal and perseverance. But neither drinking nor bathing seemed to have any effect upon him, and he remained just

as much a skeleton as before. "Patience!" urged the local doctor, in reply to his expressions of disappointment; "there is nothing like the water of our springs for making people fat!" Soon after, Perlet was patiently soaking himself in a bath, and heard a colloquy in the bathing cabinet next his own between the local Æsculapius and a lady of enormous obesity. "Doctor," remarked the lady, "I am really losing heart and patience." "Why so?" inquired the doctor. "Because, though I have been taking these waters regularly for two months, I am not one ounce lighter!" "Patience, madam!" said the doctor, in his most persuasive tones, "*there is nothing like the water of our springs for making people thin!*"

Notes on Chloral Hydrate.—M. Oré states ("Journal de Pharmacy,") that a very small quantity of carbonate of soda is sufficient to remove the acidity of chloral hydrate in solution and to render it alkaline. There is a slight disengagement of carbonic acid and some chloride of sodium is formed. Comparative experiments have shown that whilst chlorate hydrate retards the coägulation of blood, chloral hydrate thus rendered alkaline by carbonate of soda entirely prevents it. The addition of the soda does not at all interfere with the anæsthetic properties of the chloral.—*Ph. Journ.*

Quinine for Hypodermic Injections.—Dr. P. Jaillard (Répertoire de Pharmacie), alluding to the difficulties at present in the way of administering quinine hypodermically, suggests that they might be obviated by employing either an acid or neutral sulphovinate, which dissolves readily in water and in alcohol, and is insoluble in ether. An aqueous solution of the neutral sulphovinate (one pint in two of distilled water) keeps perfectly, he says, at ordinary temperatures. It does not exhibit the fluorescence so characteristic of the solution of the sulphate, has a bitter taste, and is alkaline to test paper.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

"Judex damnatur cum nocens absolvitur."

A Manual of Diet in Health and Disease. By Henry King Chambers, London. Philadelphia: H. C. Lea. 1875.

Those who are familiar with the style of the author need not be told of its charms; but to those who have not enjoyed any of his previous volumes, it is a duty to recommend his style to them in the strongest terms. Its vigor; lucidity; elegance; terseness; vivacity and frequent quaintness, give it a character delightful indeed, and fully appreciated by the great majority who have examined it. It is true that many object to it as being unprofessional frequently in its literary allusions; its sparkling wit, and its classic elegance. It is undeniable that many have endeavored to condemn it as indicative of effort at 'fine writing," and not sufficiently prosaic for the medical subjects discussed; but these are, as a whole, in the minority; while the rest enjoy an escape from the dull monotonous diction which is regarded as so eminently orthodox in all professional publications. It is, by the way, remarkable that the Press, in its criticisms, will commend classic elegance; apt illustration; metaphorical descriptive, etc., in the theologian, the orator, the statesman, and all who represent the higher planes of thought and education, while they condemn this beauty and elegance of diction in the physician. The work is "spoiled by fine writing" says the Press, and the multitude are yet old-fashioned enough to feel that if the Press says so, it must be so: "Marcus dixit ita est." But to those who believe that each one should think for himself and refuse to be led blindly by others, it is appropriate to ask why should the style which bespeaks scholarly attainment on the part of a medical author not be prized and commended by the Profession? To these it may be well also to say, is it not time with the repudiation of the wig, the spectacles, the funereal and black costume, the owlish sedateness, and sexton-like gravity of old medicine, that the

condemnation of classic and illustrative diction should be abandoned; is it not time that medical works should bear not only the jewels of science, but that these jewels should be given an appropriate and beautiful setting? To those who feel disposed to take here "a new departure," it is well to advise that, differing from the critics in condemnation of the classic and illustrative diction of Dr. Chambers, they should enjoy fully as well the sterling character and scientific excellence of his works.

This volume is divided into three departments: General dietetics; special dietetics in health; dietetics in sickness. The first is chiefly devoted to an analysis of the theories of dietetics; the choice and preparation of food; nutrition; digestion and assimilation. In these chapters the author evinces an entire familiarity with all of the recent discoveries and modern facts appertaining to these subjects. Like Richardson, of London, while fully aware that a large portion of alcohol ingested is not eliminated, he yet, with Richardson, is disposed to deny that it is on that account necessarily a food.

While repudiating the idea made so popular by the lamented Anstie, that alcohol uneliminated is nutritive and therefore food, clinically considered, Dr. Chambers yet recognizes its value, and is disposed to use it with care and judgment. It must be confessed that this portion of the work is not as satisfactory as might have been anticipated, and it would have been better for the author not to have touched it, than to have done this so unsatisfactorily.

The recommendations in regard to the diet advisable for infancy and childhood; for the mother; the professional and busy men in all classes and conditions, are very practical and valuable.

The chapters on dietetics in disease are nine in number, and replete with wisdom and sound advice. It must be confessed, however, that the author has his vagaries and hobbies; one of the most prominent is his great reliance upon fresh mustard in food for the relief of chronic rheumatism; another is his de-

pendence upon Cayenne pepper as a prophylactic for gout. Nothing but careful observation can establish the value of these suggestions, and as they are easily tested by all, they are mentioned with the hope that they may be fully and fairly tried.

Of course, there is nothing in regard to which it is more difficult to write scientifically and yet satisfactorily than the great question of dietetics. Chemistry, physiology, and pathology, in their advances, uniformly upset many of the most classic and valued rules of the past; and one in treating of dietetics scientifically, that is in the direct light of modern science, can not fail to tread heavily upon the feet of many who have planted themselves in defence of favorite dogmas in the preparation and digestion of many articles of food. When an author like Stillé curiously enough denies the virtues of pepsine, and still more curiously fails to give it a place even in the last edition of his therapeutics, it may be well understood how heavily Chambers treads upon his feet, and those of his blind adherents, for he recognizes in pepsine one of the chief aids to the digestion of albumen and those articles of food in which it preponderates. An author on dietetics must meet with severe blows from professional conservatives, while he administers his raps with becoming severity and justice; but it is only fair to say, that while Chambers has distinct convictions, and expresses these tersely and well, he entertains for his profession a broad and welcome charity.

As a whole, his book is the best work on this subject.

MISCELLANEOUS.

"Non omnes eadem mirantur ament que."

On Goa Powder as a Cure for Ringworm.—The "Medical Times and Gazette" contains a communication from Dr. Fayrer, calling attention to a remedy which has a high reputation throughout India for the cure of certain skin diseases which

are common in that country, and especially of a somewhat obstinate affection called "Indian Ringworm." This remedy, which Dr. Fayrer himself has "found to be most certainly and rapidly effective," goes by the name of Goa powder, Chrysatobine, or Poh di Bahia. Dr. Fayrer commends the powder, which he thinks has not yet become very generally known in the Profession, to the notice of dermatologists, and suggests a more extended use of it in this country. He adds: "I regret that I am unable to state what Goa power consists of, but I believe it to be a production of the vegetable kingdom." He applied for information on this point to Mr. Hanbury, but without success; "the composition as well as the place of manufacture of Goa powder seem alike secrets." It is a fine yellowish powder, without smell or taste; the mode of application is to dissolve a few grains in vinegar or lime-juice to about the consistence of cream, and to paint this over the eruption and for a little distance beyond its margin on to the sound skin; this may be repeated after a day or two. Two or three applications rarely fail to effect a cure.

In a subsequent number of the same journal, p. 547, Mr. Gaskoin, of the British Hospital for Diseases of the Skin, says that he has experimented with this powder, and has not been altogether satisfied with the results. He states, that it causes considerable irritation of the skin; he has, however, been in the habit of rubbing in the powder instead of merely painting it over the surface.

In the "Medical Times and Gazette" of March 6th, Dr. J. L. Patterson, of Edinburgh, publishes an interesting letter from Dr. Da Silva Lima, of Bahia, in which the mystery as to the composition of Goa powder seems to be satisfactorily explained. He says that the powdered medulla of a tree, called in Brazil araroba, is there a popular remedy for herpes circinatus and other similar affections. The tree which furnishes this powder grows only in the interior of the empire, and has not yet been botanically identified; it belongs, however, to the natural order Leguminose. The powder is known throughout

South America as po' di Bahia (Bahia powder), and is also exported in considerable quantities to Lisbon, whence it is probably reshipped to the Portuguese settlement Goa, and thence distributed over India under a new name. The physical properties and therapeutic effects of araroba powder and Goa powder seem to be identical, except that the latter is less energetic, owing no doubt to adulteration. Dr. Da Silva Lima recommends the following formula: Araroba powder, grs. xx.; acetic acid, minims x.; benzoated lard, an ounce. He has found it very efficacious in the parasitic skin diseases mentioned by Dr. Fayrer and also in mentagra.

Chloral Hydrate as an Antidote to Strychnia.—A most extraordinary case of recovery from strychnia poisoning, due to treatment by chloral hydrate, is reported in a recent "Lancet," by Dr. Charteris, physician to the Royal Infirmary, Glasgow. On March 12, a butcher in that city, in a despondent condition, bought from a chemist two sixpenny packets of Gibson's vermin-killer. These contained two grains of strychnia in each. Then he adjourned to the parlor of a public house, bought some whiskey, in which he dissolved the contents of the two packets, added some ginger ale, and drank off the mixture. In order to make sure work of it, he bought another draught of ginger ale and drank it from the same glass, so as to dissolve any remnant of the poison. This was about 11:30 A. M. Then he walked across the street to a butcher's shop, and asked to be allowed to sit down. A succession of tetanic fits ensued, and these seem to have continued for several hours. About 1 P. M. an emetic of hot water and sulphate of zinc was given, which, however, produced only partial vomiting. It was 3:30 P. M. when he was brought to the Boyal Infirmary. He was in great agony; violent tetanic spasms followed each other in quick succession, increasing in severity. With great difficulty the stomach pump was passed, but only some sour watery fluid was withdrawn. At 4:50 P. M. ten grains of chloral hydrate in syrup were administered. Twenty minutes after the dose

was repeated, and at 5:30 twenty grains were given. Immediately afterwards there was a severe and prolonged spasm, succeeded by a flaccid state of the muscular system, hurried respiration, quickened pulse, and drooping eyelids—phenomena which indicate the effect of chloral. Three more doses, ten grains each, were administered between this and 9:30 P. M., the symptoms of poisoning subsiding. The patient was dieted on milk and rice, and in four days had completely recovered. He said if he wished to die again he would choose something other than [illegible]son's vermin killer. Dr. Charteris afterwards tried some experiments on rabbits, and found that the administration of chloral hydrate after strychnine most decidedly checked the poisonous effects, though in one case where a longer interval had been allowed to elapse between the poison and the antidote, the animal was paralyzed from the middle of the spine downwards. It is stated, also, to account for the slowness of the action of the strychnine in the man's case, that he had previously taken a substantial breakfast of ham and eggs.

Professor John Tyndall.—In the valleys of Gloucestershire may still be seen a few clothiers' mills, the residue of a once extensive industry. Almost exactly two centuries ago, some members of the Tyndall family inhabited these valleys, and engaging for the most part in this industry, crossed over to the opposite coast of Ireland. This fact, the date of which is fixed by Mr. Greenfield, coupled with family traditions, points to the origin of Professor Tyndall. In Ireland the Tyndalls fared variously, dividing themselves into magistrates, aldermen, medical men, farmers, and tradesmen. To the last, and indeed to the poorest of the last, Professor Tyndall's father belonged. He was a man of singular force of intellect and independence of character, and he kept his son at school until his nineteenth year. In accordance with transmitted family habit, Professor Tyndall, when young, was exercised in all the subtleties of the controversy between Protestantism and Catholicism. In 1839 he quitted school to join a division of the Ordnance Survey,

with which he remained connected for nearly five years. His excellent chief, now his intimate friend, General George Wynne, R. E., gave him an opportunity of mastering all the details of the survey, in the office and in the field. For four years subsequently he was engaged on railway work; and while thus employed met Mr. Hirst, who is now the Director of Studies in the Royal Naval College, Greenwich, who afterwards joined him in Marburg, and with whom his relations are more those of a brother than a friend. In 1847, with a view to self-improvement, he accepted a post in Queenwood College, Hampshire, where Dr. Frankland was Chemist; and in 1848 they went together to the University of Marburg, Hesse Cassel. Bunsen and others had rendered the little University celebrated; and to Bunsen, whose lectures he attended and in whose laboratory he worked, Professor Tyndall owes obligations never to be forgotten. He found in Germany a second home. With Stegmann he studied mathematics; he heard Gerling lecture on physics, and subsequently Knoblauch, who, preceded by a distinguished reputation, and accompanied by a choice collection of instruments, came to Marburg, as extraordinary professor when Tyndall was there. Professor Knoblauch, in conjunction with whom Tyndall subsequently conducted various inquiries on dimagnetism, supports his old friend and pupil in Belfast; Wiedemann is also there, and Bunsen would have been there if he could. Tyndall subsequently worked in the laboratory of Professor Magnus in Berlin. In 1851 he accompanied Professor Huxley to the meeting of the British Association at Ipswich, and thus commenced a friendship which has never faltered to the present hour. Dr. Bence Jones heard of Tyndall in Berlin, and always alert in the promotion of science and in aiding those who pursued it, had him invited in 1853 to give a Friday evening lecture at the Royal Institution. Soon afterwards, on the proposal of Faraday, Tyndall was appointed Professor of Physics in the Institution, where he still remains.

In 1852 he was one of the Secretaries of the Physical Section of the British Association, which then met for the first

time in Belfast. Its President was Colonel Sabine, to whom Tyndall was indebted in those days for various acts of kindness and encouragement, and who took, unsolicited, charge of his candidature for the Royal Society. But Tyndall's earliest scientific memory happens to be associated with Belfast. In the school to which he was sent in his childhood three different arithmetical treatises were made use of, one written by Gough and another by Voster; but young Tyndall was the only boy in school who could speak of his *Thompson*. The first germ of science was dropped into Professor Tyndall's mind by the father of Sir William Thompson, who was then Professor of Mathematics in the Belfast Institution. He also remembers distinctly, many years afterwards, reading in a Glasgow magazine about Davy's experiments on radiate heat, and the longing which they excited in him to be able to do something of the kind. With the very apparatus there figured, Professor Tyndall now illustrates his own lectures. In the "Kildare-street Schools," to which he was sent when a little boy, he learned but very little, being, indeed, fonder of play than of school. His first serious application to study was under a clever teacher of a national school named John Conwill, with whom he mastered Euclid, some algebra, conic sections, and plain trigonometry. Professor Tyndall is now about fifty-five years of age. He was born in 1820 in the village of Leighlin Bridge, County Carlow, situated on the Barrow, but a fragment of which only now remains. When a boy he was an expert at climbing trees; he was a good swimmer, a good runner, and, though not unfrequently thrashed by an antagonist, a fair fighter. His first mountain experience was among the hills of Westmoreland eight-and-twenty years ago; his first visit to the Alps was in 1849; his second visit, in company with the President of the Royal Society and Professor Huxley, was in 1856; and he has continued to visit them every year since. In 1859, having paid his summer visit, he reached the Montanvert at the end of December and determined the winter motion of the Mer de Glace. At the Bel Alp, this year, he prepared his

address to the British Association.—*Drug. Cir. and Chem. Gazette.*

Artificial Oil of Wintergreen.—At an evening meeting of the British Pharmaceutical Society, Mr. John Williams exhibited a specimen of this product, and read a short paper on the subject. The oil was prepared from salicylic acid, obtained by the new method of Kolbe, by the combination of carbonic anhydride and hydride of phenyl, in presence of caustic soda. The oil, or, more properly, salicylate of methyl, exhibited, was quite identical in flavor with that obtained from *Gaultheria procumbens*, and will no doubt in time be substituted for it. During the discussion which followed the reading of the paper the production of salicylic acid was alluded to and the hope expressed that in a short time the cost of the acid might be reduced to a few shillings a pound. Dr. Paul said that the manufacture was exciting much interest in Germany, and he was glad to see that English chemists were following up the discovery. We can say the same of America, as, a few weeks ago, we had the pleasure of seeing some acid of home production, and of inspecting the complete apparatus with which Dr. Squibb, of Brooklyn, is now operating upon quite a large scale. The pure product is of unexceptionable appearance, and a crude acid is also produced, which, for manufacturing purposes, as in the preparation of the oil, would be quite pure enough, being merely tinged with color.—*Canadian Jour. of Phar.*

Discovery of a Lost Plant.—There has lately come to light a case which will rank among the most curious on record. The mines of Laurium, in Greece, which were worked about 1,600 years ago, are, in a great measure, composed of scoria, or the refuse of ancient mines, which still yield a large percentage of silver. In clearing away a mass of this refuse, a quantity of seeds were discovered, which must have been buried for at least fifteen centuries. Restored to conditions favorable for germination, to the heat of the sun and contact with the air, the

seeds gave signs of life, burst their buds, and sent down roots into the earth and threw up stems into the light. When these last had budded and blossomed, lo! a lost species of the genus Glaucium (horned poppy) of the order Papaveraceæ was revealed. Pliny and Dioscorides frequently describe the flower in their writings with great particularity, as its golden corrolla is very beautiful; but it has hitherto been unknown to modern science. Now, the plant which had disappeared from the face of the globe for 1,500 years or more is resuscitated by a strange and happy accident.—*Pharmacist.*

Sulphovinate of Quinia.—Professor P. Jaillard prepares this salt by introducing into a boiling solution of 214 grains of barium sulphovinate, in 12 fluid ounces of distilled water, 437 grains of officinal sulphate of quinia, filtering the solution and evaporating on a water bath to a syrupy consistence. On cooling, a crystalline mass remains, which may be dried under a bell-glass with quick-lime, and reduced to a powder. The salt, when thus prepared, is soluble in twice its weight of cold water, and is hence well adapted for hypodermic use. When prepared by decomposing the sulphate of quinia by sodium sulphovinate, in presence of alcohol, it is much less soluble, requiring four parts of water.—*Exchange.*

Uræmic Convulsions Treated by Morphia.—Dr. Fred. E. Porter, U. S. N., relates the following case in the Boston Medical Journal: Mr. D., age sixty-two, for the past year has been suffering from Bright's disease. On the 31st of January, 1874, he was seized with uræmic convulsions, each fit lasting from five to ten minutes, with from ten to twenty minutes of consciousness intervening; the consciousness during the intervals gradually increased, until he lay between the attacks in a deeper stupor, breathing stertorously. As all means tried for relief proved unavailing, and as the patient was evidently failing rapidly, he injected into the cellular tissue of the fore-arm, in the midst of a convulsion, twelve minims of Magendie's solu-

tion of morphia. For four hours following, the convulsions did not recur; he then had two light attacks, after which there was no return. In ten days he had so far recovered as to be dressed; he had partial paralysis of the right side, hemiopia, the left half of each retina being impaired.

During the past year the patient has had no return of convulsions; he complains of muscular weakness in the right upper extremity, with sensation of numbness of the right half of the body. The hemiopia has but slightly improved.

Dr. P. thinks "the result in this case goes far to show that the danger to be apprehended from the use of morphia in uræmic convulsions has been much exaggerated. The effects of opium upon the cerebral circulation whereby the comatose condition arising from a poisonous dose of that medicine is produced, in all probability differ widely from those which are caused by the non-elimination of the effete matter which in Bright's disease gives rise to uræmic convulsions; and though there is a strong analogy between the effects of the drug and of the poison, the above case tends to show the groundlessness of the fear that by administering opium we shall add fuel to the fire."

Dr. Williams on the Uterine Mucous Membrane.—Dr. Williams ("Obstetrical Journal") has published a paper on the "Structure of the Mucous Membrane of the Uterus and its Periodical Changes," in which he mentions the microscopical appearances of the uterus in twelve cases of persons dying at various known periods from the last menstrual epoch. Starting from the cessation of the menstrual flow, when the mucous membrane of the uterine cavity had nearly disappeared, whilst that of the cervix remained whole, he found a rapid renewal of the membrane takes place, commencing at the lower part, and becoming complete some days before the occurrence of the menstrual flow. Fatty degeneration of the membrane then ensues, before the hæmorrhage, and probably causes it, and the menstruation rapidly removes the membrane. At the end of

menstruation the bundles of the muscular coat were found to form the inner wall, and mingled with the muscular fibre cells he found round granular cells, with remains of glands lined with columnar epithelium, and groups of rounded cells. The epithelium first appeared near the cervix, where it lies on a thin layer, composed of round and spindle-shaped cells, and glands embedded in a structureless matrix.—*The Doctor.*

Insulation in Rheumatism.—Amongst other curious proposals may be named that of insulating the beds of patients in order to cure rheumatic fever. As a specimen of the manner in which such remedies obtain credit, we may cite a case reported by Dr. Edward Playter in the "Canada Lancet." On February 11th the patient began to suffer, getting worse until the 14th, when Dr. P. ordered a blue pill and seidlitz powder, and put him on a mixture containing *potassium nitrate, potassium bromide and colchicum.* On the 16th more pain; so Dr. P. ordered bed to be insulated, which was done by setting the legs of the bedstead in four glass salt-cellars, at the same time ordering *the mixtures to be continued and a Dover's powder to be taken at night.* The next day the patient was better, and soon got about again. The cure is attributed to the insulation, notwithstanding the treatment we have italicised. Had the editor of the "Lancet" an eye to a joke when he inserted Dr. P.s case in his issue for the 1st of April.—*Ib.*

Nævi.—In the "Lancet" Mr. S. J. Knott gives an account of forty cases of Nævi which he treated successfully by electrolysis. He employs Stohrer's and Meyer and Meltzer's continuous batteries. In general he uses six or eight cells, but the number varies according to the size of the nævus. He says that if the nævus is but small he uses one or two needles, attached to the negative pole, and one to the positive, and passes them into the tumor; if large he puts several needles in the negative cord, and uses charcoal point with the positive. After the needles have been in the tumor a short time decomposition

begins to take place, shown by bubbles of gas passing by the side of the needles. A clot is then formed, the tumor becomes bluish-white, and "in this clot, fibrous degeneration takes place, and ultimate cure is the result."

Mr. Knott says: "The advantages of the galvanism are its certainty of action, its safety, the faintness of the cicatrix, and the cessation of pain directly the operation is over. I have used every other method, and I certainly think this by far the best."—*Exchange.*

The Dangers of Chloroform, etc., and the Nitrite of Amyl.—Mr. C. Bader writes to the "Lancet" that, some years ago, when nitrite of amyl was first used at Guy's Hospital, he, with Dr. Goodhart, studied its effects, when taken internally, upon the blood vessels in the healthy optic disc and retina. The effect, he says, is as rapid as it is striking. Three or four seconds after taking three drops of the drug on sugar the blood vessels of the retina (arteries and veins, but especially the veins) become enormously dilated and gorged with blood, leaving no doubt as to simultaneously existing cerebral hyperæmia, with greatly accelerated circulation of blood.

Lately, after observing upon himself the effects of inhalation of the vapor of the nitrite of amyl, it occurred to Mr. B. that in cases of faintness or of defective breathing or heart's action, while under the influence of an anæsthetic, nitrite of amyl might be of use. He relates three cases to show the encouraging effects of this agent.

Case I.—Given a mixture of alcohol, ether, and chloroform. Young man, hydrocephalic, inherited syphilis; iridectomised on both eyes; suddenly became pale, deeply insensible, with pulse and respiration very defective. Lint, with a few (three) drops of nitrite of amyl, was placed over nose and mouth. In two or three seconds a deep inspiration, followed by others, flushed face, quick pulse, and return of sensibility, were observed.

Case II.—Given chloroform. A boy, pale, fat, blue lips and cheeks, became suddenly very faint (blue lips, blood turning

black, breathing very imperfect). The same quick result, with vomiting, followed the inhalation of the nitrite of amyl (three drops).

Case III.—Given chloroform. A middle-aged woman suddenly became blue in the face and stertorous (tongue falling back). Lint, with ten drops of the nitrite of amyl, was placed over mouth and nose. In a few seconds the blueness and stertorous breathing gave way to good color, regular breathing, and sickness and vomiting, though no food had been given for several hours.

The most striking effects of the nitrite of amyl were the quick restoration of breathing, of a good color, and the rapid appearance of sickness. It remains to be shown whether injection of this agent will have a still better effect.—*The Doctor.*

Nasal Polypi.—Dr. George Troup Maxwell "guarantees" that muriated tincture of iron is a radical cure for nasal polypi. He gives an example in the "Philadelphia Medical Times:"

A carpenter, whose nares were closed with gelatinoid polypi, which always produced a feeling of discomfort, and sometimes considerable pain. The distension was at times very great, and caused some disfiguration. He had used a number of astringents without effect, but had never been able to summon the courage required to submit to evulsion. Dr. M. injected about a drachm of the tincture of iron, reduced in strength one-half by admixture with water, into each nostril, holding his head back so as to retain the fluid in contact with the polyp a few seconds. This simple operation was repeated daily, and on the third day the masses began to slough and to be discharged. At the end of a week their destruction seemed to be complete; the nares were pervious, and the sense of smell was recovered.

The treatment of this case was more protracted than any he had before encountered, three or four days being sufficient hitherto. The delay in this case he attributes to the impacted condition of the nostrils, which prevented access of the tincture to any but a limited portion of the body of the polyp. As

soon as the fluid gains access to the pedicle the cure is rapid, because the death of the polyp is quickly effected. In this case the injection was repeated the third or fourth time before the fluid could pass through the posterior nares into the pharynx. The irritation of the nares caused by the dilute tincture is trifling in severity, and of short duration.

Dr. Reeder first proposed this treatment in the "Chicago Medical Journal," Sept., 1859; and Dr. Maxwell contributed three cases to the "St. Louis Medical Reporter," 1867.

A Primipara at Forty-eight.—Dr. Wurzburger (Allg. Med. Central-Zeitung) reports the following singular case: "A strong hearty woman of forty-eight, married for years, became pregnant for the first time, and was delivered of a large-sized girl. She did not suspect her condition (attributing the cessation of menstruation to the climacteric period) until the pains became severe, and the physician in attendance was compelled to use forceps in delivery. There was no enlargement of the breasts, and no secretion of milk, but the puerperal week was passed normally.

Cancer from a Clinical Standpoint.—The following conclusions are drawn by Prof. Nussbaum ("Müncherer, ärtzlich. Intell. Blatt): 1. Cancer is a hyperplasia of the epithelium which extends toward, and crowds upon the connective tissue, produces ulceration on very slight irritation, debilitates the person by hæmorrhages and ichorous discharges, and finally its particles extending throughout the entire body, causes similar growths and destructive changes in other organs and subsequent death. 2. Amongst its causes we must reckon advanced age, mental anxiety, and grief; besides this all those tissues (as warts, cicatrices, etc.), which occupy an immediate position between epithelium and connective tissue predispose to it; finally those parts which are often irritated but in which no acute inflammation has occurred, are frequently attacked. Cancer is not hereditary, and is not contagious. In the beginning it is

a purely local affection, and becomes a discrasia only after extension. 3. Humoral infection is to be distinguished from the cancerous dyscrasia. The former may entirely disappear and never contraindicate an operation. 4. The recurrence of cancer is either continuous, as when the elements have not been entirely removed; or regular, if the neighboring morbid tissues be disposed to the formation, or when some of the particles have been carried through the circulating medium to a distant part of the body. 5. Cancer is radically curable by an early and extensive operation. 6. According to carefully computed statistics, patients who have been operated upon live considerably longer than those in whom this procedure has been omitted. 7. All remedies acting on the tissues, on the nerves, and blood should be considered in deciding upon treatment. First in rank, we place an extended operation. Caustics are often useful, especially after removal of the growth. Iodine, arsenic, and cundurango are all valuable for internal administration. We have derived decided benefit from parenchymatous injections. Disinfectants and narcotics are often indispensable agents.—*Allg. Wiener Med. Zeitung.*

Alcohol, its Action and Uses.—In his fourth lecture, Dr. Richardson discussed the question, Is Alcohol Food? To this various answers have been given by scientific men, but he considers the evidence to be conclusive that alcohol is *not* a food in any degree or in any sense.

It is not the builder of any tissue whatever, probably not even of fatty tissue. This conclusion will surprise many who have noticed how ale fattens people; but this fattening is the result not of the alcohol, but of the sugar or starchy matter which is taken along with it, and it would appear that drinkers of pure spirit, that is, spirit unmixed with sugar, do not fatten upon it. It may be that alcohol induces desire for undue sleep, or at least for physical repose. This interferes with the ordinary nutritive processes. The waste products of the body are imperfectly eliminated, respiration becomes slower, and a series

of changes begins, leading, independently of the direction of the alcohol, to the deposition of fatty tissue. There is no evidence of the origin of fatty matter directly from the alcohol.

There is no doubt that alcohol is decomposed in the body; that it is assimilated in some manner. Careful and long continued investigations have been made by many scientific men on this subject. The late Dr. Anstie, especially, made a series of exhaustive experiments which led him to the conclusion that of the alcohol administered but a very small fraction was yielded by all the secretions combined. He proved that a terrier dog, weighing ten pounds, could take with comparative impunity nearly 2,000 grains of absolute alcohol in ten days, and that on the last day of his regimen he only eliminated by all the channels of excretion 1.13 grains of alcohol. This fact was of itself sufficiently remarkable, but another still more important remains to be told. After an animal had been treated with alcohol, as above described, Anstie killed it, instantly and painlessly, two hours after it had received the last quantity (95 grains) of spirit. Then the whole body, including every fragment of tissue with all the fluid and solid contents, was subjected to analysis, with the result of discovering only 23.66 grains of spirit.

Alcohol, it thus appears, is decomposed in the animal body. By its decomposition in air, heat and power may be obtained, and why not then in the other case? Direct knowledge gained from individual experiment shows that alcohol reduces the temperature of the body. As a result of those researches, four progressive stages of change of animal function from alcohol are recognized. These stages are developed in all the warm-blooded animals, and the changes of temperature throughout the whole country are relatively the same.

In the first stage the external temperature of the body is raised. In birds, as pigeons, the rise may amount to a full degree on Fahrenheit's scale; in animals it rarely exceeds half a degree. In man it may rise to half a degree, and in the confirmed inebriate it has been known to run up to a degree and a

half. The heat felt in this stage might be considered as due to the combustion of the alcohol; it is not so, being in truth a process of cooling, owing to the more rapid radiation of heat from the larger surface of warm blood in the vessels partly paralyzed by the alcohol.

In the second stage the temperature first comes down to its natural standard, and then declines below what is natural. In birds, the fall is from one and a half to two degrees; in other animals, as dogs and guinea-pigs, it rarely exceeds one degree; in man it is confined to three-fourths of a degree.

During the third stage the fall of temperature rapidly increases, and as the fourth is approached, it reaches a decline that actually becomes dangerous. In birds the reduction may be five degrees and a half, and in other animals three. In man it is often from two and a half to three degrees. There is always during this stage a profound sleep or coma, and while this lasts the temperature continues reduced.

Dr. Richardson said that the inference from all these facts is that the alcohol is not burned after the manner of a food which supports animal combustion, but that it is decomposed into secondary products by oxidation, at the expense of the oxygen which ought to be applied to the natural heating of the body. He supported these conclusions respecting the action of alcohol on the animal temperature by another series of observations, in which the effect of this substance on the muscular power was traced. He showed that the excitability of muscle was reduced just in the same way as the animal heat, until finally, as the spirit brings on narcotism, so is the muscular power brought down to a state of extreme prostration. "Indeed, if we were to treat our domestic animals with this agent in the same manner that we treat ourselves, we should soon have none that were tamable, none that were workable, and none that were edible."

The lecture closed with a few "hygienic considerations," which we can not do better than to give in Dr. Richardson's own words: The facts I have endeavored to lay before you in

this as well as the last lecture, will suggest to your minds many thoughts bearing upon the health of individuals and communities in so far as health is affected by the potent agent, alcohol. I am bound to intimate that the popular idea of administering alcohol for the purpose of sustaining the animal warmth is an entire and dangerous error, and that when it is brought into practice during extremely cold weather is calculated to lead even to fatal consequences, from the readiness with which it permits the blood to become congested in the vital organs. Whenever we see a person disposed to meet the effects of cold by strong drink, it is our duty to endeavor to check that effort, and whenever we see an unfortunate person under the influence of alcohol, it is our duty to suggest warmth as the best means for his recovery.

Whatever good can come from alcohol, or whatever evil, it is all included in that primary physiological and baneful action of the agent upon the nervous supply of the circulation to which I have endeavored so earnestly to direct your minds. If it be really a luxury for the heart to be lifted up by alcohol; for the blood to course more swiftly through the brain; for the thoughts to flow more vehemently; for words to come more fluently; for emotions to rise ecstatically, and for life to rush on beyond the rate set by nature; then, those who enjoy the luxury must enjoy it—with the consequences.—*Boston Jour. of Chemistry.*

Mr. Teale's Case of Excessively High Temperature.—Sir,—On February 28th, I brought before the members of the Clinical Society, and through them of the Profession in general, some notes of a case of excessive and long-maintained high temperature after special injuries, with recovery, in which a temperature ranging from 108° to 112° and upwards, had been maintained for a period of nearly nine weeks.

It is not, I think, surprising that the relation of such a case, which, if it be faithfully recorded, tends to upset all the ideas previously entertained as to vital resistance to heat, should

have provoked some criticism, and even, in the minds of some, a certain amount of scepticism. From various quarters, I have received suggestions and questions on points of difficulty in the the case; and to these I propose, with your permission, to reply *seriatim* in the "Journal."

I have been asked, "Was the temperature ever taken in the mouth?

I was more than once desirous to do so, whilst my patient was very ill. The attempt, however, always caused retching, and was not persevered in. After the paper was read, as Miss G. was then suffering from the relapse brought on by her journey home, I wrote and asked her brother to call in her medical attendant, to ascertain the temperature in her mouth. The brother, in reply, says: "On Sunday, March 7th, my sister's temperature was taken under the tongue, between the thighs, and under the arm (simultaneously), and was from 108° to 108½°."

Mr. Henry Hind, partner of the Messrs. Trotter, of Stockton, writes on the same date:

"I was asked to see your patient, Miss G., on Sunday, March 7th, and I then found her with a quiet pulse, and apparently in a good state of health, but in bed; and upon taking her temperature, I found the thermometer in use by her to register 108°. This I verified by using my own, which registered the same within one-eighth part of a degree. I have now in my possession a thermometer lent by me to Mr. G., which is indexed to mark 110°; and after use, the register was driven into the little bulb at the end."

"Was the temperature ever taken in the rectum, groin, and axilla simultaneously?"

On December 10, 1874, it was so taken (as stated in my paper, an abstract of which only appeared in the "Journal.") The result was: Temperature in both axillæ, 110.4°; in rectum, 111°. It was repeatedly taken in both axillæ, and between the thighs simultaneously, when, as a rule, the three thermometers were within half a degree of one another."

"Have you ever kept your hand and eye on the instrument whilst any of the high temperatures were recorded?"

I have repeatedly steadied the thermometers in the axillæ myself, and have watched them rise simultaneously to heights ranging from 112° to 118° and upwards. The thermometers have then been carefully removed by me into the adjoining room, to avoid drawing our patient's attention unduly to our observations; and I have then frequently given them to the nurses and friends to grasp. The sensation to the hand of a glass tube heated to 118°, is one that, when once it has been felt, is not easily forgotten.

"Had you a trained nurse during the period of the high temperature?"

For most of the time; at first, one from the York Institution, and afterwards one from Lincoln. They were both somewhat sceptical about the high temperature at first, having been accustomed to take readings in hospitals; and I put them on their guard against mistakes. They were repeatedly present when observations were taken.

"Had the patient frequently hot bottles in bed with her, or hot flannels?"

To her feet, an India-rubber hot-water bottle was occasionally applied, but nowhere else. To her head and spine, she had very frequently ice-bags, which were grateful to her. I was early made acquainted with the "hot-water-bottle theory," and mentioned it to her nurses and attendants. On this point, I would ask, if a patient could endure in contact with her skin *one* bottle so hot that it would raise a thermometer to 118° or 120°, still less two or three in various parts of the body. On removing the instrument, I have repeatedly placed my hand in the axilla, and have found the impression of heat given there as great as that given by the thermometer, the patient's hands being at the same time icy cold.

Observations were taken at all sorts of times, sometimes in the night when the patient was dozing.

During the nine weeks of my patient's severe illness, a va-

riety of instruments (most of which have since received the Kew certificate) registered temperatures which never once fell *below* 108°, and which sometimes reached 122° and upwards. For five weeks afterwards, the patient being convalescent, the same instruments never once registered a temperature above 100°. After the patient's return home, when she was suffering from a partial relapse of her old symptoms, another set of instruments, in the hands of another medical man, again registered as high as 110° and upwards (the temperature in the mouth tallying with that in the axilla). Since that time, convalescence having again been gradually approached, frequent observations have never on any occasion given a high rate of temperature.

I have now laid before the Profession every point that occurs to me as likely to be of interest in this case. I have carefully looked round to see if there could have been any possibility of error, and have failed to find any. I now leave it, with the conviction that, if it has been accurately observed and faithfully recorded, as I believe it has been, other facts must sooner or later crop up, which will tend to throw light on that which is at present obscure.

In the discussion which followed the reading of the paper at the Clinical Society, Mr. Jonathan Hutchinson pointed out that there was an essential difference between the cases of abnormal temperature following lesion of nerve centres, and those which formed part of the course of a specific fever; and Dr. Farquharson drew attention to a case of extensive lowering of temperature after spinal injury to 81°. Again, in the "British Medical Journal" of April 3, 1875, under the heading, "Drunkenness in Germany," an account is given of thermometric observations carefully taken both in rectum and axilla, in two cases of alcohol poisoning, in one of which a temperature of 76° was recorded, and the other of 75.5°, with recovery in both cases. That is to say, a depression of 23°: whilst in my case it was raised to about the same amount.

In pursuance of the same idea, that the greatest variations

of temperature may be looked for in injuries to the nervous centres, Mr. Pridgin Toale, on the same occasion, related a case he had recently seen of fracture of the skull, where, in a few hours after the injury, the temperature had risen to 109°, when death ensued. Can any one say how high it might not have risen, had not the injuries caused death? For I contend that there is no proof in such cases that the temperature, *per se*, is the cause of death.

Dr. Lionel Beale, in the Lumleian Lectures on Life and on Vital Action in Health and Disease (see "British Medical Journal," May 8, 1875), in further illustration of the same idea, speaking of bioplasm-particles, says:

"Another important change to which these bioplasm-particles, in connection with the peripheral expansion of nerves, probably takes part, is the development of heat. Is it not possible that, under certain circumstances, the mode of force developed in the matter of the nerve-bioplasm may be changed, heat being rapidly produced instead of nerve force? The suggestion at once occurs, whether the explanation of such exceptional cases of high temperature as that brought by Mr. John Teale before the Clinical Society a short time since, will not probably be found to have something to do with the phenomena of nerve bioplasm." I am, sir, faithfully yours, JOHN W. TEALE,

—*Brit. Med. Jour.* Scarborough, June 20, 1875.

Homicide by Infection.—Whether Elizabeth Marsden, in the course of imprisonment for conveying puerperal fever, and in it death to several of her patients, is a martyr or a justly punished criminal, is a question on which opinion in the profession is divided. It is evidently part of a much larger question involving issues of considerable consequence to the Profession. On any view, good will arise from the prominence given to the culpability of continuing obstetric practice after it is clearly apparent, or even probable, that the poison of puerperal fever attaches to the practitioner. The Farfarshire Medical Association has petitioned the Home Secretary for Marsden's release,

on the ground that in the present state of medical doctrine as to the numerous questions connected with puerperal fever, the charge of homicide by puerperal infection can not be scientifically proved, and that it is without precedence in criminal jurisprudence. The Association admits that she acted at variance with ordinary prudence. This is too mild a way of expressing her culpability. She disregarded the best advice, and a series of facts which should have impressed even an ignorant woman. Though, as we have already pointed out, we think the process of dealing with this new offense in law admits of abuse and misapplication, we can not acquit Marsden of most serious blame. Mr. Wells, it will be seen, in his summing up of the late discussion at the Obstetrical Society, strongly deprecated the attempt that had been made to enlist the sympathy of the Society in behalf of such cases, and inculcated even extra precautions, so that the life of not one puerperal woman may be endangered. This is the right note to strike on this serious question, and we may feel pretty well assured that no practice honestly and carefully conducted will come within the notice of the law. We are far yet from being in any danger of overdoing the precautions of cleansing, disinfection, etc., necessary to avoid the chance of conveying disease. Let us err in the direction of excessive caution. It is lamentable to hear, as we have very lately heard, that in Vienna, where the connexion between the dissecting-room and puerperal fever has been long apparent, remarkable recklessness on the subject still exists, and as a consequence great puerperal mortality.—*Lancet.*

Treatment of Typhoid Fever by the Cold Bath.—The recently published Transactions of the Medical Society of the Paris Hospitals contain a suggestive and practical paper on this subject by Dr. H. Libermann. The author, who is surgeon-in-chief of the military hospital Gros-Gaillou, acknowledges that his attention was first drawn to the value of this method of treating typhoid fever by the success with which he observed it to be pursued in the German ambulances during the war of

1870. He then gives a full historical sketch of the bath treatment of fever, assigning to Currie the honor of its introduction, and giving full credit to the good work done by the German physicians, notably Brand, Ziemssen, and Liebermeister. His own experience has at present extended over twenty cases, two of which were fatal, but he can not adopt in its entirety the confidence that Brand has in the use of this valuable therapeutic aid.—*Lancet.*

To Remove Foreign Bodies from the Eye.—A medical correspondent of the "Lancet" makes a suggestion which may prove useful on emergency to some of our readers. He says: "In consequence of the difficulty I experienced in removing from a patient a portion of steel deeply bedded in the cornea, which did not yield to spud or needle, some other means of removal became necessary. Dry, soft, white silk waste suggested itself to me, and was wound round a thin piece of wood, so as to completely envelop its end. This soft application was brushed once backwards and forwards horizontally over the part of the cornea where the foreign substance seemed fixed. To my astonishment it was at once entangled by the delicate but strong meshes of the silk, and was withdrawn with the greatest ease, caught by the same. A gentleman in turning steel at a lathe suddenly felt that a portion had entered his eye. He went at once to a surgeon, who with the most skillful manipulation failed to extract the same, saying it would soon work out of itself. The next morning the patient saw me, having suffered severely since the accident, and on the first application the portion of steel was extracted.—*Bost. Jour. Chemistry.*

Hæmostasis in Surgery.—What shall we do with the arteries after surgical operations? It seems now to be a matter of taste; for, to take only the hospitals of London, it will be found that acupressure, torsion, and the ligature, either with silk or catgut, are severally practiced in different institutions. No one will, however, complain that various means should be at hand; it is

for the surgeon to decide which is the most appropriate in a given case. Much may depend, however, on whether ischæmia (Esmarch's compression) be used or not. Torsion is a favorite practice in some hospitals; but we have seen abundant secondary hæmorrhage after it, and statistics in this respect are wanting. We are, no doubt, far from the time when hot oil was used; and we may boast of a gigantic stride in regard to hæmostasis, though we are apt, now and then, to fall back upon the practice of our ancestors. And here we have Professor Verneuil, who is strongly advising forci-pressure, which, as the Professor mentions, was first practiced by Desault in 1780. It chiefly consists in the application of forceps with continuous pressure, which may be kept up from twenty-four to forty-eight hours without inconveniencing the patient. The instrument has even been known to remain until it became spontaneously detached. The blades may be smooth or toothed, the latter acting more quickly and, in most cases, successfully. M. Verneuil is convinced that this practice, so long neglected, will not again be so unaccountably abandoned.—*Lancet.*

Can a Dead Man Groan?—The possibility and probability alike of such a circumstance as the utterance of a groan after somatic death are sufficiently heterodox to ordinary credence to induce me to record the fact of my having, in connection with others, heard a veritably dead man groan.

J. B., aged fifty-seven, committed suicide by hanging, and, after he had been very effectually suspended for an hour, was cut down by me and two others. As the doubled rope was slackened from the neck, air escaped from the thorax through the larynx, and a prolonged rather loud groan was the consequence. The two men who assisted me exclaimed: "He ain't dead;" and I, for the moment, fell in with their views, ripped open his clothes, and practiced artificial respiration; but I soon noted that there was not the slightest attempt at respiration; that the heart was still to eye, hand, and ear; that his well opened eyes were glazed as only a dead man's eyes glaze, and

that the dilated pupils were insensible to strong light. He was certainly dead, and dead from the first, and the groan we all heard had, I imagine, the following causation. The suicide braces his body for the final throe by taking in a deep breath; and, when hanging is the method adopted, the constriction of the air-passages immediately and effectually prevents this air escaping; but, when the rope is relaxed, the lungs and thorax contract with sufficient force to occasion a groan even an hour after death. Such a positive observed fact may find its importance in a medico-legal sphere, and I feel that it ought to be contributed to the répertoire of such as it may interest.—*E. Holland, in Brit. Med. Jour.*

Cancer Doctors have some "ways that are dark and tricks that are vain," like Bret Harte's "Heathen Chinee." Their system appears to be the same in outline wherever the rascals exist, and is essentially as follows:

1. He who aspires to the dignity of "Cancer Doctor" must provide himself with an efficient caustic or caustics, which may be used in the form of a powder, paste or plaster.

2. The quack must disguise the articles by suitable coloring materials, and stoutly deny that they are caustics.

3. He must advertise largely that the great Dr. Tumorsmash will "take out the cancers without the use of a knife or caustic, and without pain," and guarantee the cure.

4. When the patients flock in, he must pronounce everything a cancer, whether it be a wart, corn, fatty tumor, ulcer, necrosis, sarcoma, or what not.

Now he is ready, and his success will depend upon his enterprise in carrying out the plan.

Honest John Leatherhead, the shoemaker, has observed a lump upon the surface of his thigh, in fact an encysted tumor. It gets in the way of his lapstone, gets hit with his pegging hammer, and, when it is hammered too much, becomes swollen and tender. Mrs. Leatherhead has read Dr. Tumorsmash's handbill, and advises John to go and see him. John, who has

eyed the swelling for many a month with fear and suspicion, determines to have a talk with the great man, especially as his "consultations are free." He dresses in his best, and presents himself. The quack views him from head to foot, and draws him out into conversation, to guage the "size of his pile." He then looks at the encysted tumor, and, with solemn and ponderous dignity, pronounces it a cancer of the most malignant type. John turns pale, and his leather head shakes on his shoulders. Can he be cured? Yes, says Dr. Tumorsmash, but it will cost $500. Leatherhead pleads poverty, but finally pays $100 in advance for a guaranteed cure.

"I believe you take out cancers without pain," says he.

"Certainly," replies the quack, "that I always do. However, I must put you under a course of preliminary treatment for a few days. This preliminary treatment is a little painful, but you can bear it, and then I will remove the tumor without the slightest suffering."

Dr. Tumorsmash now administers a good dose of morphine; next he surrounds the tumor with a circle of adhesive plaster to protect the skin, and claps on his caustic. This hurts severely, but then it is only "preliminary treatment," and meanwhile he plies the morphine vigorously to keep Leatherhead as quiet as possible. After a proper number of hours, when he judges that he has produced a sufficiently deep slough, he removes the caustic and applies poultices. The pain now ceases, and the poultices are continued until the eschar is fully separated from the living flesh. Now the quack is ready for his grand operation of removing the tumor "without pain." The patient's friends assemble, the poultice is removed, and the surface sponged clean. Dr. Tumorsmash discourses as follows: "My friends, I have called you in to see one of the triumphs of modern science. If you look at this tumor, you will see how wonderfully my medicine discriminates between the cancer and the natural flesh. Look at this deep groove (pointing to the line of demarcation). That was the boundary of the cancer, and you see that this wonderful remedy has followed the

disease everywhere exactly up to that line, and has nowhere gone a hair beyond it. It has the property of killing the cancer to its remotest roots, and has no effect on healthy flesh. I will now proceed to remove it." Suiting the action to the word, he gracefully seizes the rotten mass with his forceps, and lifts it out of its cavity "without pain."

Leatherhead is amazed and profoundly grateful. In the course of three months the ulcer is healed; and for the rest of his life he and Mrs. Leatherhead never weary of sounding the praises of Dr. Tumorsmash.—*Atlanta Med. and Surg. Jour.*

The Age of Suicide.—The influence of age upon suicide is a study of more than speculative interest, on account of its practical bearings and of the ease and precision with which it can be demonstrated. By age is meant the critical periods of life. These periods having many components besides the mere fact of years, it is apparent that what we have to examine is a many-sided phenomenon, including together with it the advance in life, the working of physiological, mental, and sociological causes. It has been lately examined by Dr. O'Dea, and it appears that the maximum of suicides of both sexes occurs between the ages of twenty-five and fifty-five. Previous to the twenty-fifth year there is a sudden increase from two suicides between the ages of five and ten, to 136 between twenty and fifty-five. After fifty-five the tendency to suicide declines, but more gradually than it rose, except at sixty-five, where the number increases from 81 to 83—a rise so slight, however, as to be little worth considering. There are, therefore, three suicidal periods in life; those of organic and mental growth, of organic and mental completion, and of organic and mental decline. In the first the chart shows 80: in the second, 942, and in the third, 311. Comparing the periods in round numbers, it may be said that they are as one for childhood and adolescence to twelve for adult life, and to four for the years of bodily and mental decay. The influence of sex and its attendant circumstances upon suicides at the different periods of life is shown

upon the charts. With females, as among males, there is a sudden and abrupt rise until the twenty-fifth year is reached. This rise is continued until the twenty-fifth year, at which the maximum of suicides occur among women. The period from the twenty-fifth to the thirty-fifth year corresponds to that of the greatest pressure from domestic troubles and responsibilities, and also with the greatest activity of the maternal functions. The line thence descends abruptly to the forty-fifth year, whence it rises to the fiftieth, the critical period of mature female life, and then goes down, down, until it reaches the level from which it started. There are, therefore, two culminating points, and while the line on the male chart is undulating and sustained, that on the female chart is vertical and abrupt. The lower of the male culminating points is the higher of the female, and, contrariwise, the lower of the female is the higher of the male. These charts do not show the relative frequency of suicides among the two sexes. The ratio of suicides to population in the United States is (for the period covered by the last decennial census) 25 to 100,000 among males, and 3 to 100,000 among females. The only periods at which suicides are nearly equal for both sexes is from fifteen to twenty years, during which the number of boy suicides was 34, of girl suicides 32. After this the number of suicides among males is much greater than among females.—*London Med. Record.*

An account of the post-mortem examination of the case in which inflammable gas was discharged from the stomach during life, is given by the Berlin correspondent of the "Irish Hospital Gazette" for May, 1875. The stomach was found to be but little distended. The pyloric orifice was imbedded in a hard tumor about the size of a walnut, and its calibre reduced to that of a crow-quill. The whole mucous membrane of the stomach was pale and anæmic, and became gradually lost in the substance of the tumor. The serous coat was everywhere thickened, this being most marked in that portion which covered the tumor, where the membrane was nearly one minim

thick. The microscopic examination of the tumor showed it to be a fibro-myoma. The glands of the stomach, except in the immediate neighborhood of the cardiac extremity, had disappeared. The whole thickness of the mucous membrane was occupied by innumerable small, round cells, which had completely destroyed the regularly arranged stomachic glands, and only with difficulty could a few widely-scattered, tube-shaped bodies be recognized as such. In these miserable representatives of the glands of the stomach, ordinary epithelium could not be recognized, its place being apparently taken up by a finely-granular detritus. The man could, therefore, no longer assimilate his food, and the attempt made for some time before his death to nourish him per rectum could not, of course, satisfy, for any length of time, his craving for food. The presence of carburetted hydrogen in the evacuations can not be accounted for satisfactorily.—*Ex.*

Noxious Fumes from Factories.—It is earnestly to be hoped that all Public Health Bills which will become law will provide an efficient remedy for the abominable nuisance now caused in many populous districts by the noxious emanations from chemical manufactories. An injunction in Chancery may be sought, and is generally granted if the fact of a nuisance is clearly established. It is not necessary to prove injury to health, or even injury to property. The Lords Justices hold that a man has no more right to pour foul air over your premises than he would have to pour foul water, and several recent decisions have affirmed this view.—*London Lancet.*

On the Remedial Value of Nitrite of Amyl.—A discussion on this subject took place at a meeting of the Berlin Medico-Psychological Society on December 7th ("Berliner Klinische Wochenschrift"). It was opened by Dr. Solger, who gave a brief account of the experimental results arrived at by Filehne. The latter attributes the blushing caused by inhalation of two to five minims of the nitrite to paralysis of a centre, situated

in the brain, which presides over the innervation of a particular vascular region. The vagus-centre is temporarily paralyzed at the same time; hence the quickening of the pulse. Solger observed that, in his own case, prolonged exposure to an atmosphere charged with the vapor of the drug caused first drowsiness, and then wakefulness; the latter being attended by warmth of the extremities. He suggests that other vaso-motor centres, such as those shown by Goltz to exist in the spinal cord, may also be paralyzed by the nitrite, its action on the vaso-motor centre in the brain being only the first and most sudden of the series. Brilliant results were obtained from the drug in certain forms of epilepsy and loss of consciousness. Its action in vertigo proved capricious; it failed to relieve this symptom in two cases in which it was connected with malarial poisoning, and yielded to the administration of quinine. The vapor was given to an infant under twelve months old, suffering from one-sided clonic convulsions; the usual physiological effects ensued, but the convulsions were in no way modified. Subsequent inhalation of chloroform checked them for a considerable time. An adult, suffering from epileptic fits ushered in by an aura in the right leg, was directed to inhale nitrite of amyl as soon as the aura made itself felt; this was invariably found to prevent the subsequent loss of consciousness and convulsion. For convenience of administration, Solger recommends the use of large capillary tubes, containing from three to five minims each; these are charged with the nitrite and sealed at both ends; when required for use, one tube is folded in a bit of rag and broken up with the fingers, thus furnishing a sufficient dose of the vapor.

Jastrowitz stated that he had found the drug useful in asthma, but quite useless in patients suffering from melancholia. He doubted whether the hyperæmia of the cerebral vessels occasioned by the nitrite extended to the entire brain; the absence of any visible change in the blood vessels of the optic disk, either during or after inhalation, leading him to believe that the dilatation of the arteries is confined to particular regions of the brain.

Sander corroborated the statements of Jastrowitz as to the occasional benefit derived from vapor of nitrite of amyl in asthma. He found it useless in the psychoses, and in epileptic fits not preceded by an aura. In two cases, the cessation of inhalation was followed by alarming symptoms of collapse. This may perhaps be explained by an observation of Schüller's, who found that the dilatation of the arteries of the pia mater under the influence of nitrite of amyl was followed by a marked narrowing of their calibre.—*Lon. Med. Rec.*

Chloride of Zinc as an Antiseptic.—Mr. Lister has found chloride of zinc to have this remarkable property, among all antiseptics that he has tried, that a single application of it to a recent wound in a solution of the strength of forty grains to the ounce of water, although it produces no visible slough, yet prevents the occurrence of putrefaction on the cut surfaces for days together, in spite of the action of the septic material; and if the discharges have opportunity to flow freely away, as after the removal of a tumor of one of the jaws or a portion of the tongue, there may be absolutely no odor from first to last, the divided textures being thus guarded from the bad effects of the putrefaction during the dangerous period, before they have been covered by the protecting layer of granulations.—*Med. Press and Cir.*

Iodised Glycerine.—The "American Druggists' Circular" publishes a formula for iodised glycerin, received from a correspondent, who is of opinion that it will be generally preferred to the officinal tincture. It has the advantage of not staining the skin, yet is equally efficacious with the unsightly preparations now in use: Iodine of potassium, one ounce; re-sublimed iodine, one ounce; glycerin, to make sixteen fluid ounces. Powder the iodine and dissolve in about four ounces of the glycerin; add the iodine and rub well in a mortar until it is dissolved. Lastly, add the remainder of the glycerin.—*New Remedies.*

Glycerin-Sichel.—The "Gazette Obstet. et Gaz. de Joulin," according to "La Tribune Médicale," states that this preparation, which consists of pure glycerin and the yolk of egg, and has the appearance and consistence of honey, is highly praised as a local application for several purposes. In fissures of the nipple of nursing women it affords relief when other remedies fail. It afforded relief in every one of eleven such cases in which it was applied. In fissures of the mammæ, it protects the skin from the action of the saliva of the child and from sour milk. In ruptures of the perinæum, it protects the torn surfaces from being irritated by the urine and lochia. It is daily used in Dr. Vernier's clinics to annoint the hands when examining suspicious women, and is found to be a perfect protection from infection.

This preparation does not putrefy, nor does it become rancid like ointments. It assists in cleansing wounds, and promotes primary union.—*Am. Jour. of Med. Science.*

A Monstrosity.—At the Philadelphia Hospital I was shown an extraordinary monstrosity by Dr. Montgomery, resident physician in the obstetrical ward of that Institution, an account of which he has since reported in full in the "Medical Times." The case in question consisted of twins, born dead at full term, both males, weighing together ten pounds and four ounces, and, like the famous Siamese twins, joined by a band—in this instance three inches in length. The band, or pouch, connected the umbilici together, and was a reflection of peritoneum, partially covered by integument, and enclosing a portion of the intestines. There was a single placenta, which was somewhat larger than usual. Two veins and two arteries, given off from the middle of the placenta, formed the cord, which bifurcated at a short distance from the pouch, sending an artery and a vein to each child. A careful dissection, made by Dr. Montgomery, discovered that the single hypogastric artery of each child came off from the aorta, and vein, after entering the abdominal cavity, pursued its normal course to the liver, and in

all other respects the circulation was normal. There was an imperforate anus in each child, the large intestine terminating in a pouch, which opened into a sulcus running from one child to the other. The small intestines of each child joined in the common pouch of peritoneum, to form a triangular receptaculum connected with cæcum. The genital organs were well developed, but the urinary apparatus was imperfect—there being no bladder, and the ureters running into the pouch.—*Nashville Jour. Med. and Sur.*

MEDICAL NEWS.

'Nulla dies sine linea."

The Central Kentucky Medical Association held its eighteenth regular meeting at Harrodsburg, July 28, 1875, in Grange Hall, beginning at 10 o'clock A. M., the President, Dr. Dunlap, of Danville, in the chair. After a prayer by Dr. C. H. Spilman, Dr. Steele Bailey, of Stanford, read the opening paper on Bright's Disease, which brought out a lengthy and lively discussion. Dr. S. L. S. Smith, U. S. A., Chairman of Section on Progress of Materia Medica, Hygiene, and Chemistry, read his report, and also a report of a case of strangulated inguinal hernia, right side, with operation and recovery. Dr. Spilman, of Harrodsburg, presented a report of a case of pudendal hernia. Dr. Dunlap, of Danville, reported a case of adenia. Dr. A. D. Price, of Harrodsburg, read a paper on the Progress of Surgery, Anatomy, and Surgical Pathology. Dr. Steele Bailey, of Stanford, exhibited Tieman's modification of Fahnestock's tonsilotome, volume iii. of Ziemssen's Cyclopædia, and Loomis on Diseases of the Heart, Lungs, and Kidneys. Dr. McMurtry, of Danville, presented a carcinomatous tumor of the mamma, with recovery, and copies of the "New Orleans Medical and Surgical Journal," new series. The Secretary exhibited,

for the publisher, Henry C. Lea, of Philadelphia, a speci en copy of the "Obstetrical Journal of Great Britain and Ireland," with an American Supplement by Dr. W. F. Jenks. Definite action was taken on the subject of the McDowell Monumental Fund, and committees appointed from each county to solicit contributions for it. The object of this fund is to erect a monumental shaft over the remains of Dr. Ephraim McDowell, the Father of Ovariotomy, whose grave lies neglected in a neighboring county. The operation, which he originated, and which has made his name illustrious throughout the medical world, was first performed in Danville, by Dr. McDowell, where he lived and died, and it is at this place that it is proposed to place the monument. The proceedings altogether were unusually interesting and instructive, and there was a fair attendance. After a vote of thanks to the members from Mercer county for hospitalities, and to the Grangers for the use of their Hall, the Association adjourned, at 5 o'clock P. M., to meet at Stanford, on the third Wednesday in October next, when the debate will be opened by Dr. William Huffman, of Lancaster, on "Headaches—their Causes and Treatment.———*A Fresh-water Sponge.*—At a recent meeting of the New Jersey Microscopical Society, at New Brunswick, its Secretary, Professor Lockwood, exhibited specimens of fresh-water sponge, discovered by himself in a pond at Port Republic, New Jersey. The sponge grew in masses, covering several square yards of surface, with a thickness varying from an inch to two inches. It has a dichotomous habit of growth, and the sarcode, or sponge-flesh, was of an intensely dark-green color. It seemed quite closely related to the *Spogilla fluviatalis.* Some slides were shown with the spicules cleaned by treatment with boiling nitric acid. With a new lens of low power (seventy-five diameter), just made by George Wale, and of most excellent definition, the silica spicules were finely brought out. They are cylindrical, curved, and pointed at both ends. They are limited to one form, and are arranged in little fascicles of about twelve spicules in each bundle.—*American Garden.*———*Nitrate of Pilocarpine.*—In a

former number, says "The Doctor," we mentioned that the alkaloid of jaborandi—pilocarpine—had been prepared, and described the process employed by Mr. Gerrard. He then stated that, judging from the characteristics of the alkaloid, it seemed somewhat doubtful to him whether it could be made to assume the crystalline condition. From a further communication of Mr. Gerrard's to the "Pharmaceutical Journal," we learn that he has succeeded in obtaining crystals of the nitrate. He neutralized a portion of the alkaloid with nitric acid, and set it aside; in twenty-four hours the solution had yielded a mass of fairly well-defined colorless crystals, with a substratum of light-brown colored matter. This salt was submitted to Dr. Ringer for the purpose of testing it therapeutically. It was found to produce the usual effects of jaborandi. Mr. Gerrard subsequently succeeded in crystallizing the hydrochlorate.———— *Third Dentition.*—The Paris journals relate the recurrence of a third reproduction of all the teeth at the Hospital of Incurables, in the person of a woman aged ninety years. The first reproduction ensued at the age of forty-seven, the second reproduction at the age of sixty-three. Partial reproduction occurs occasionally, but the record of a complete dentition at a period so far advanced is, in fact, perhaps unique.—*Ex*————*Dr. Fleetwood Churchill.*—We regret to announce the retirement of this distinguished obstetrician from the active practice of his profession. Dr. Churchill, in consequence of failing health, has found it necessary to withdraw from our profession, which he has long adorned, and from which he retires with well-earned laurels to enjoy the *otium cum dignitate* which he richly deserves.—*Brit. Med. Jour.*————*Hypodermic Purgatives.*—M. Luton, having dissolved ten centigrammes of magnesic sulphate in one gramme of distilled water, injected it subcutaneously, and thus obtained, at pleasure, a gentle aperient effect or smart purgation. The results are recorded in the "Bulletin de la Societé Médicale de Rheims." M. Luton finds that these injections actually suspend or remove sympathetic vomiting, and thinks that they might even prove useful in sea sickness and in

pregnancy.—*Movement Medicale.*———*Medical Education of Women in India.*—We notice in the "Madras Mail" that the Indian Government is desirous of giving every encouragement to women to study for a medical degree, in which case they must attend the full curriculum of prescribed studies.—*The Doctor.*

———*A Remarkable Work of Art.*—Some thirty or more years ago, Herr Ernst von Bandel, a Westphalian nobleman with a taste for the sculptor's art, conceived the patriotic idea of erecting a gigantic statue to Hermann, the vanquisher of Varus in the Teutoburg Forest. A grand national monument, the statue was to reach the enormous proportions of one hundred feet, not to speak of pedestal and base; and as it was to be placed on the top of a hill, the site of victory, the difficulty of getting in position not a little added to the magnitude of the undertaking. In spite of all obstacles, what appeared a chimera thirty years ago has now become a reality. Assisted by wealthy friends and occasional public subscriptions, Herr von Bandel has completed the figure, and in two months expects to witness the solemn inauguration of his monument by the German Emperor. The statue is of embossed copper, and has been wrought by the hand of the man whose brain created it. His whole life has been consumed in this one object. When he had done modeling—no small task in the case of a figure with hands five feet long—he took to the hammer and forge, and literally formed the immense surface with his own unaided strength. A good deal of it was done at the foot of the hill whereon it stands, the sculptor having built himself a forge and hut close to his chosen locality. To judge from the head, which was exhibited ten years since, Germany will possess not only the largest but also one of the best statues in Europe. This eighth wonder of the world will tower over the famous oak woods near Detmold, the capital of the principality of Lippe.—*Bost. Jour. of Chem.*———A French medical man reports to the Academy a case in which he has succeeded in curing grave congestion of the brain, along with paralysis of the whole right side, by making the patient inhale pure oxygen;

from the first inhalation the patient got relief, and motion and sensibility returned by degrees.—*Ex.*———An English journal says that the cows on the island of Ushant, off the coast of Brittany, feed principally on sea-weed, and that consequently their milk is particularly rich in iodine; and it is proposed that this milk be used for the cure of diseases benefited by iodine, as it does not produce the constitutional disturbances that often result from the administration of iodine in other forms. Apropos of iodized milk, an Italian physician, fifteen years ago, proposed to obtain it by feeding cows on hay that had been sprinkled with a solution of iodide of potassium.—*Ex.*——— *Newspaper Charlatanism.*—At the recent annual meeting of the Lancashire and Cheshire Branch of the British Medical Association, the following resolution was adopted, endorsing the views expressed recently by the "British Medical Journal" on a subject interesting alike to the Profession and to the public: "Resolved, That this committee is of opinion that medical papers intended for medical readers should not be advertised in any other than medical journals." Resolutions to the same effect were also passed at the recent combined annual meeting of the Cambridge and Huntingdon, East Anglian, and South Midland Branches, and at the annual meeting of the Midland Branch, of the British Medical Association.—*Brit. Med. Jour.* ———*Treatment of Habitual Drunkards: Deputation to the Home Secretary.*—A deputation, principally representative of the Medical Profession, waited on July 1st upon Mr. Cross, the Secretary of State for the Home Department, to urge upon the Government the desirability of introducing in the next session of Parliament a measure, founded on the recommendation of the select committee of the House of Commons, for the control and management of the class of persons known as habitual drunkards, or dipsomaniacs. There were upon the deputation: The Earl of Shaftesbury; Lord Houghton; Lord Henry Scott, M. P.; Sir H. Furgusson-Davie, M. P.; Dr. Lush, M. P.; Mr. M'Carthy Downing, M. P.; Sir William Fergusson, Bart.; Sir Thomas Watson, M. D., Bart.; Canon Conway; Dr. C. J. B.

Williams, F. R. S., Physician Extraordinary to the Queen; Mr. W. C. Garman, ex-President, and Dr. Bodington, President elect, of the Birmingham and Midland Counties Branch of the British Medical Association; Dr. Pigot, D. C. L.; the Rev. Dr. Cox, Vicar of St. Helen's; Dr. H. Moore; Dr. Farquharson; Mr. Holthouse; Mr. Curling, F. R. S.; Dr. Murchison, F. R. S.; Mr. J. Wood; Dr. Sibson, F. R. S., and others. The Earl of Shaftesbury, in introducing the deputation, said he could not do better than read the memorial of members of the Medical Profession and others, which he begged to hand to the right honorable gentleman. The noble lord then handed to the Home Secretary the document, which was signed by, amongst others, the Dean of Westminster; Sir George Burrows, M. D., Bart.; Sir Thomas Watson, M. D., Bart.; Sir William Fergusson, Bart.; Sir James Paget, Bart.; Sir William Gull, M. D., Bart.; Sir Henry Thompson; C. J. B. Williams, M. D., F. R. S.; Edward H. Sieveking, M. D., and Cæsar Hawkins, F. R. S. Sir Thomas Watson observed that, during his very long professionol life, he had been incredulous respecting the reclamation of habitual drunkards, but his late experience had made him sanguine as to their cure, with a very considerable number of whom excessive drinking, indulged in as a vice, developed itself into a most formidable bodily and mental disease, resulting from alcoholic poisoning of the system. The introduction in excess continually, from time to time, of intoxicatiug drinks—particularly of alcoholic drinks—led to an accumulation in the system of their specific poisons. The tissues of the body and the nervous system—which included the brain—became at length so impregnated, so charged with the poison, as to produce in the unhappy victim of this condition a craving for the accustomed stimulant which became absolutely irresistible. Such people as these were "dipsomaniacs"; and for these victims there could be no doubt that there was but one remedy—absolute restraint from all access to spirituous or alcoholic drink for a sufficient length of time, so that they should gradually recover from the mania. When men are inclined to renew the vice, there should

be "institutions" or "retreats" for their reception, where they might be placed by their friends or well-wishers, by their own personal desire, or by the authority of the magistrates, for periods of three to twelve months.—*Ibid.*———Up to the present time, the amount handed over from the various congregations to the Hospital Sunday Fund amounts to £27,300.—*Ibid.*.———*Right.*—A butcher named Lerch, residing at Linden, near Hanover, has been condemned to two years' imprisonment for gross negligence. His offense was the selling of a quantity of trichinized meat, which caused the illness of about four hundred persons, and the deaths of more than fifty. —*Ibid.*———The Managers of the Metropolitan Asylum Boards made their annual inspection of the Caterham Asylum on the 10th of July. The asylum contains nearly 2,000 patients, of whom 1,000 are imbeciles. The plan adopted there of reclaiming and cultivating what at one time was almost waste ground has been productive of great benefit to the patients by curing many who were looked upon as chronic cases, and also in an economical point of view by greatly reducing the cost of each patient.—*Ibid.*———*A Good Lesson.*—The governors of the Cheltenham General Hospital and Dispensary have been advertising for an honorary medical officer to the Branch Dispensary for the last three months; but, not having succeeded, they have at length advertised for a paid officer, to receive a salary of £50 per annum, for attending four days a week. We rejoice at this; for, although the amount is not large, a useful principle is vindicated.—*Ibid.*———*Abortionists.*—The sentence of death which was recently carried out does not appear to have been the means of causing a discontinuance of the crime. The sentence of twenty years' penal servitude which was awarded to Mary Ann Billington by Mr. Justice Field, on Tuesday, may perhaps have a wholesome effect. It was stated that the prisoner had been in the habit of carrying on the trade for many years. It is, however, satisfactory to know that she will not be able to do so again for many years hence.—*Ibid.* ———At a meeting of the Edinburgh University court, re-

cently, it was resolved that a sum not exceeding £200 should be expended by the University in entertaining the British Medical Association at their meeting in Edinburgh, in August. ———A case of triplets occurred in Edinburgh last week. The three children, all girls, were born alive.———*Double Voice.*—At a recent meeting of the Austrian Society of Physicians, Dr. Schnitzler presented a tenor singer from Hanover, who could sing two notes (thirds) at the same time. This remarkable fact is due to a small polypus growth on one of the vocal cords; this tubercle, when the patients sings, divides the chords into two unequal portions, each of which then produces an independent tone. The phenomenon can be best observed when the patient sings *falsetto.—N. Y. Med. Jour.*———Dr. John P. Gray, Superintendent of the New York State Lunatic Asylum, at Utica, has been appointed Professor of Psychological Medicine and Medical Jurisprudence in the Bellevue Medical College.———*Death from Chloroform.*—Dr. J. R. Buist reports, in the "Nashville Journal of Medicine and Surgery" of June, the death of a boy eleven years of age, under the administration of chloroform for the reduction of paraphymosis. At the instant the operation was completed, the patient ceased to breathe. The prompt application of Nélaton's method produced only a few gasping respirations, and all subsequent efforts failed to restore life.———*Longevity in England.*—The mortality returns for the year 1872 show that 195 men and 433 women died at 95 years old and upward. Of this number 24 men reached or exceeded 100 years, one attaining 111 years. Of the women 51 reached or exceeded 100 years, two having died at the age of 107. Of the whole number remaining, men and women, two died at 101, two at 102, one at 103, two at 104, and one at 105.—*Ex.*———*Meat Diet.*—We find in English journals recent reports from the Challenger expedition, which, at last accounts, was cruising in the vicinity of Japan. A visit had been paid to the Admiralty Islands, the inhabitants of which have had so little intercourse with the outside world that they are totally ignorant of the use of either tobacco or

spirits. They are described as remarkably honest for savages, and do not show that distrust of civilized man which unsophisticated races soon learn, when they get better acquainted with him. They are tasteful in their dwellings and utensils, carefully lay the roads between these dwellings with coral sand, and cultivate flowers. On one point, however, their observing visitors were nonplussed. Their hosts were mortal men, but there was no sign of graves or grave-yards anywhere. Curiosity was aroused. "We," says the writer, "found out the word for 'dead'; they are very effective pantomimists, and when we inquired what became of the bodies, they made the most unequivoeal signs that they cut them in pieces, boiled, and ate them." While, however, indicating that they were quite willing to eat one another or even their guests, they expressed abhorrence of cooked dog.—*Bost. Jour of Chem.*———

Toughened Glass.—The "tempered" or "toughened" glass, to which we alluded briefly in the "Journal" for April, is attracting great attention in Europe. It is destined, we believe, to revolutionize the glass manufacture, and to come soon into every-day use. It has already been made in sufficient experimental quantities to prove its applicability to all purposes for which glass is now used, and to many others for which it would have been employed, if it were not for its fragility. Vessels manufactured of the toughened glass, though not distinguishable in appearance from those to which we are now accustomed, may be thrown about with the utmost carelessness, but no ordinary risks will injure them. With a tender thoughtfulness for long-suffering housekeepers, the inventor proposes especially the manufacture of plates and dishes, cups and saucers, and such like articles, either transparent or enameled. To have these no longer liable to fracture is an important amelioration in domestic economy; but the toughened glass is likely to prove of value in much wider spheres. It will stand any amount of heat, and vessels made of it can be placed on the fire without danger. Consequently, its employment in chemical factories in the place of lead, earthenware, platinum, and silver, is a ques-

tion of time only. Glass pipes will probably replace those of lead for water and for other purposes, and thus diminish the chances of lead poisoning. Indeed, it is difficult to anticipate the limits of the application of this very remarkable discovery. The one purpose for which at present there seems some difficulty about employing the new material is for window-panes, for it can not be cut by a diamond, though the glass may be cut first and toughened afterwards. It can, however, be engraved by the ordinary methods, and cut on the wheel. Essentially, the process consists in heating glass nearly up to the softening point, and then plunging it into a bath of oil or grease. But to bring it to perfection has needed the patient experience of seven long years. M. Bastie, who is a gentleman of fortune, is said to have made his discovery first some seven years ago. This was after many years of investigation. But though he seemed to have succeeded for the moment, it took two years more of continual experiments before he could repeat his success. The invention has been patented in all European countries, and soon will be throughout the civilized world.—*Ib.*———*The Roman Academy of Medicine.*—The first meeting of this scientific Body took place in the hall of the University of the Sapienza on the 27th June. Besides thirty-three ordinary Fellows, there were present the Minister of Public Instruction (by deputy), the Rector of the University, and a considerable number of physicians, medical students, and the non-professional public. Professor Maggiorani, one of the most distinguished teachers of the Roman Medical School, presided and delivered an address, wherein he stated the objects for which the Academy had been instituted. He pointed to the ceaseless march of medical induction, and vindicated the value of free discussion in guiding and steadying its steps. Medicine, he argued, is rapidly becoming coëxtensive with the science of humanity, and its investigations are acquiring the most lively interest for the legislator. Society, moral as well as physical, must rely, in the last resort, on the guidance of medicine in that enlarged sense in which the physician's art is now studied and practiced.

Take, for instance, the notorious case of Louise Lateau. Millions of people were being deluded into the belief that the woman was the subject of miracles, and superstition was pointing triumphantly to her symptoms as evidence of the visible working of the "spirit," until the Belgian Academy of Medicine brought science to bear on the phenomena, and reduced her periodically bleeding stigmata, her ecstatic fits, her somnambulism, and her hearing of voices, to physio-psychological law. No institution but an Academy of Medicine could have investigated the case so thoroughly or pronounced on it so authoritatively. But this is only one use of Academies. The physician in daily practice benefits by them in maintaining the "scientific attitude" so apt to be lost in the distractions of extra-professional detail, while the investigator comes to them from his laboratory to profit by the criticism his conclusions evoke from the practical mind. Useful in all great centres of life, such an Academy is peculiarly so in Rome, where prescriptive authority has so long impeded the movements of a professional class preëminently fitted for scientific research. The discussion that followed Professor Maggiorani's able address gave ample proof of the interest with which medicine, theoretical and practical, is prosecuted in the city of Galileo and Lancisi, and we may anticipate from the Medical Academy of Rome the best of all assurances, that biological science maintains its rightful place in the second Renaissance which Italy is passing through.—*Lancet.*

EDITORIAL.

"Nullius addictus jurare in verba magistri."—Hor.

Newspaper Advertising of Specialties.—In one of the largest medical societies in the West, in a city noted for the excellence of its medical staff and the strict observance of professional proprieties, a medical gentleman has been expelled because of his advertising himself as a specialist in the daily

newspapers. Is this action of this Society sustained by the Profession at large, or is it regarded as harsh and unjust? This is a question that far transcends in importance the comfort or disadvantage, the praise or the censure of the parties to this recent transaction; it is to be accepted manifestly either as a precedent for the future guidance of all medical Societies, or it is to be repudiated, leaving societies unsustained in punishing those who transgress their laws, and the laws of the Profession at large. Shall the action of the Evansville Society be sustained, or not? If the former, the future of all culprits is easily foretold; if the latter, their conduct and increasing transgressions may as easily be anticipated.

Those physicians who advertise or wish to advertise themselves as specialists in the daily papers, contend that they are doing nothing more than is done by the members of a faculty, when the advertisement of a medical college appears in the secular papers. Is this claim a just one? Is the position tenable? As a rule, medical colleges seldom advertise in the newspapers; but when they do, and when the names of those representing the different "chairs" are given, can it be claimed either that these gentlemen are specialists, or that they are advertising themselves or being advertised as such? In this connection, facts are of great and conclusive weight.

Surely no one can contend that those thus advertised usually practice a specialty, or claim to be specialists; for, in most cases it is notorious, that they are general practitioners; claiming to be such only, and so regarded by all cognizant of the facts. So far then there is no parallel; a practitioner advertising himself in the newspapers as a specialist claims that he is one, and seeks such kind of practice only; the member of a college faculty thus advertised does not claim that he is a specialist, and does not seek this kind of practice to the exclusion of that belonging to every general practitioner. This difference is great and manifest.

Even were a member of a college faculty, however, advertised as a specialist in the daily papers, and claiming to be one,

there is yet a wide difference between his position before the Profession or the general Public, and that of the physician who thus advertises himself. A college advertisement is or may be regarded as really necessary. The Institution is supported by the unprofessional; the student and his parents or guardians. Its support is derived from secular sources, and if secular supporters are to be reached, the medium must logically be secular in character; a secular newspaper. It may, however, be said that this is granted, but that the advertisement need not contain more than the name of the college, its terms, date, and duration of session, etc. Such is often the ground taken by many in arguing this question; a question which would here be set aside, if there were not a broad principle underlying it. No one can deny that a parent or guardian in selecting a school for wards, students, or children, cares but little, if any, for the name of the school, the date of its commencement or closing; the chief information sought, of course, is this; who are the teachers, and what branch does each one represent? Manifestly this information is due to the Public; every sensible man must feel that it is the cardinal want demanded; that it must be given; and that in giving it, those representing each branch in a college must incidently be advertised. In this case, the knowledge given to the Public is necessarily given, and in response to an implied or manifest demand; in the case of the private practitioner advertising himself as a specialist, the knowledge given is not in response to any demand whatever. Here is a second difference, too manifest to need further notice.

When literary colleges, law colleges, theological colleges, all give the names of the faculties and the branches taught by each, it is puerile to say that medical colleges should form the exception in this respect, because the gentlemen composing such faculties are indirectly advertised; though not even then advertised as specialists. The claim then on the part of a private physician who seeks emolument by advertising himself as a specialist in the daily papers is unjust, untenable, and manifestly censurable.

If there is no plea of this kind that can be justly or truthfully set up, there is but one test which can be and should be applied; the medical law, to which each member of a medical society voluntarily renders allegiance. If this law is to be broken, the course is manifest; either the breaker of the law must withdraw his allegiance publicly and by the consent of all concerned; or he must, if not allowed this profitable but disreputable privilege, be punished as a medical malefactor or culprit; what this punishment should or must be, is always carefully stated in the organic law of every medical oganization. If it be expulsion, the member expelled is only receiving the punishment which he aided in decreeing; or which if decreed by his predecessors, he publicly sustained and approved.

With this presentation of undeniable facts there can be no escape on the part of societies from fully endorsing and approving the action of the Evansville (Ind.) Medical Society.

Whether specialists should advertise at all, is a question which should be definitely determined. Every Journal should take the responsibility of declaring its views clearly and unmistakably; every society should do the same; so should every organ of professional sentiment.

That bona fide specialists should be allowed to advertise in medical journals, this Journal has always contended is just and proper; though it removed all such advertisements from its pages when the American Medical Association decreed that such advertisements were improper; and it has refused all such advertisements since that period.

The specialist resigns to the general practitioner all of practice outside of his specialty; he retains a slice only, and gives up the loaf. Now as the largest cities contain an insufficient amount of material for sustaining its specialists, it is manifest that these gentlemen must seek and obtain this support elsewhere, and that this can be done only by advertising their business, to the members of their Profession, through the columns of the medical journals. Some specialists deny the force and justice of this claim; and contend that each worker should

rely upon his reputation!! Yet these very gentlemen publish their "cases" of every description in medical journals; obtain pamphlet extras, and broadcast these among professional and unprofessional readers throughout the whole country!! "Thou hypocrite!! remove first the beam from thine own eye, and then shalt thou see clearly how to remove the mote which is in thy brother's eye."

However much though physicians may differ as to the propriety of advertisements from specialists in reputable medical journals, no one pretends that any reputable physician should do himself and his profession a grievous injury by advertising in the daily newspaper; that abode of the charlatan and the quack; wherein tempting webs are guilefully and infamously set (with the coöperation of the proprietor) for entrapping the unwise; the simple-hearted and unsuspecting. On each of these webs is labeled the name of the infamous, ignorant, remorseless quack, who with hungry, baleful eye watches for his prey.

The Profession may fall below its high standard, but long distant be the sorrowful day, when it resorts to such methods for sustenance and support. And while, as in Evansville, the blow may fall upon one worthy and esteemed, yet let it fall remorselessly and surely upon every one who to secure his own emolument would bring injury and discredit upon his profession. Expel from medical societies all who in editorial or advertising columns cunningly spin webs for the entrapment of their prey, bringing upon a great profession ignominy and disgrace.

An Interesting Notice.—Subscribers will find enclosed an interesting notice, the perusal of which will profit them and—the editor. Who can deny himself the pleasure of doing what is just?

RICHMOND AND LOUISVILLE

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ORIGINAL COMMUNICATIONS.

"Qui docet discit."

ART. I.—PLACENTA PRÆVIA. By MONTROSE A. PALLEN, A. M., M. D., Professor of Gynæcology, Medical Department University of New York; Surgeon to Charity Hospital; Member of the New York County Medical Society; of the Obstetrical Society; of the Neurological Society; of the Journal and Library Association; Honorary Member of the St. Louis Medico-Chirurgical Society, etc., etc. [Read before the New York County Medical Society, June 18, 1875.]

Placenta Prævia may be defined as ectopic gestation, the result of migration of the ovum and its implantation in the lower third of the cavity, or even in the neck of the uterus. Its subsequent development and growth are fraught with extreme danger to both mother and child.

The study of the etiology, prognosis, prophylaxis and treatment, is not yet sufficiently complete to enable us to decide the question with the accuracy its gravity demands. The development of the placenta depends upon the histological fusion of the impregnated ovum with the mucous membrane of the cavity of the uterus, and its subsequent subdivision into the decidua vera, the decidua serotina, and the decidua reflexa.

The elements of the mucous tissue of the uterine cavity are supposed to be alone capable of placental development after the deposit of the conception, and the majority of physiologists and obstetrical observers of the present day incline to this doctrine. Matthews Duncan and Robert Barnes are perhaps the most prominent of the British authorities who adopt this opinion. Roederer, Stoltz, Weitbrecht, Rokitansky, Henle, and Reichert have likewise the same view.

Kussmaul and Courtry, however, distinctly avow a more extended belief in the formation of cervical placentæ, as they make mention of cervical in contradistinction to uterine pregnancy. There is some reason for this belief, when we recall the numerous observations of ovarian, tubal, intramural or interstitial, and abdominal pregnancies, where the ovum was not only implanted upon a tissue histologically unlike the uterine mucous membrane, but the placenta was developed, and grew *pari passu* with the embryo.

Hecker, Puech, Mattei, Campbell, and Kussmaul have tabulated some four hundred of these extra-uterine gestations of greater or less duration.

These facts somewhat shake our belief in the absolute necessity of intra-tubal union of spermatozoon and ovum as the *modus faciendi* of conception.

Still more astonishing are the statements of Oldham, Rokitansky, Maurer, Luschka, Drejer, Watson, Kussmaul, and Klob, concerning extra-uterine migration of the ovum, as demonstrated by the *presence of a corpus luteum in the opposite side* to the oviduct through or in which the conception ensued. In the case described by Rokitansky, uterine pregnancy took place with an *obliterated left* oviduct and a *corpus luteum* in the *left* ovary. It is very evident that there was ovular migration in this instance, and it was not possible for the ovum to enter the uterus save by the *right* Fallopian Tube, and it must have been picked from the left ovary or the peritoneum by the fimbriated extremity of that side. Oldham's case was one of *left* interstitial pregnancy, with obliteration of *right* oviduct,

and a *corpus luteum* in *right* ovary. Drejer's, as well as Luschka's case, presented a *corpus luteum* in the ovary of the side where there was absence of the oviduct.

These facts evidently tend to impress us with the idea that conception takes place at any point where the spermatozoon and ovule may unite, not necessarily in the oviduct, but upon the ovary, in the tubo-uterine canal, in the cavity of the uterus, or even in the cavity of the neck. Certainly in Rokitansky's case of obliteration of the left tube, with a *corpus luteum* of the left ovary, the conception must have taken place in the uterus, as it is not probable that the spermatozoon traveled through the right tube, passed out of the fimbriated extremity, encountered the ovule upon the left ovary or upon the peritoneum, and there blended, to again pass back into the uterus. It is more probable that the right tube caught the ovule from the peritoneum or left ovary, and deposited it in the uterus, where it joined the spermatozoon to produce the embryo. This supposition is farther based upon the fact that the lining membrane of the oviducts is ciliary and vibratile, with the movements of the cilia *toward* the uterus.

The prevailing and usually accepted doctrine, however, of the functions of the Fallopian Tubes is that of transportation of the spermatozoon to the ovule for the purpose of fecundation, and the deposit of that production in the cavity of the uterus.

The facts with regard to the extra-uterine migration of the ovule may in a measure enlighten us upon the etiology of placenta prævia.

Whether conception ensue from intercellular fusion and blending of spermatozoon and ovule in the oviduct, or in the uterus, when placenta prævia takes place, is a question not as yet positively settled, and the data obtained from the hundreds of cases tabulated by Sir James Y. Simpson, Dr. James Trask, and others, do not enable us to positively define the etiology. Uterine enlargement, in consequence of the presence of foreign growths—fibroid tumors particularly—or from subinvolution,

seems to be a prolific cause in the production of placenta prævia. The hyperplasia of the mucous membrane necessary to the formation of the decidua may be in excess, or deficient, and the fecundated ovule is not lodged in the upper portion of the cavity of the uterus, but becomes adherent to the lower third, about the internal os, or, according to Kussmaul and Courty, even in the cervix. Whatever doctrine we may adopt, either the uterine or the tubal blending of the ovule and spermatozoon, evidently the most prolific cause of placenta prævia would seem to be enlargement of the uterus. Thus, in one hundred and seventy-two cases tabulated by Dr. Trask,* we find only fourteen occurring in the first pregnancy, the others taking place at the second, third, fourth, and even twentieth impregnation.

In one hundred and forty-one cases tabulated by Sir James Y. Simpson, in which the expulsion or extraction of the placenta preceded the birth of the child, I find but eight as having taken place at the first pregnancy.† Placenta prævia then occurs but rarely in the uterus ordinarily supposed to be free from enlargement, as in three hundred and thirteen cases but twenty-two happened with primiparæ, whilst two hundred and ninety-one were incident to multiparous gestations, wherein, in all probability (certainly the women were very liable), there were subinvolutions from previous pregnancies, as well as other neoplastic formations peculiar to and quite frequent with parturient women. Furthermore, it is not at all improbable that of the twenty-two primiparæ, some of them labored under uterine hypertrophy. This, of course, is mere supposition, but we are warranted in such belief from our knowledge of the frequency of uterine enlargement in

* PRIZE ESSAY on the statistics of Placenta Prævia, by Dr. James Trask, of White Plains, New York. Transactions of the American Medical Association, 1855.

† Selected Obstetrical and Gynæcological Works of Sir James Y. Simpson. etc., edited by J. Watt Black, M. A., M. D., etc. New York. D. Appleton, &c., 1871, page 188, *et seq.*

nulliparous women, resulting from areolar hyperplasia. The etiology, then, of placenta prævia is, as far as we can determine, frequently dependent upon uterine enlargement, or more positively stated, upon an increase in the size and area of the cavity of the body of the uterus. The propulsive power of the Fallopian Tubes, or rather their peristaltic action, with vibratile ciliary movements of the epithelium lining them, also combine to forward the expulsion of the ovule into the uterus, thereby mechanically accelerating it toward the internal os. This lining epithelium may be so hyperæmic or congested, that a fluxionary or catarrhal condition may coexist, and the ovule thereby floated off the fundal portions of the uterine cavity, when it is expelled from the ostium uterinum of the oviduct.

The symptoms, course, and diagnosis of placenta prævia have been sufficiently studied to be thoroughly well appreciated by the discerning obstetrician, and will not, therefore, be considered in this paper.

The prognosis is to be applied to the child as well as to the mother, and very greatly depends upon prophylaxis and treatment, all of which should be considered conjointly and generically, rather than separately and specifically. There are some conditions referable to the mother, which have a common bearing upon all cases of placenta prævia, and they may be summed up under the following headings: What are the condition and age of the patient, and to what period of utero-gestation has she proceeded? Is she robust and young, or is she enfeebled and weakened by preceding pregnancies, or previous or co-existing disease? At what stage of labor is she found by the accoucheur—if she has lost much blood, and to what degree has it enfeebled her—if the cervix be undilated, dilated, or dilatable—if the liquor amnii has been discharged—if the condition be complicated with albuminuria—and, finally, if the maternal pelvis tends toward the production of dystocia? These propositions usually present themselves prior to the delivery, but those which arise subsequent to the birth of the

child are equally grave, taking for granted that all the immediate apprehensions from hæmorrhage, shock, and exhaustion are omitted during the consideration of the question.

Will the acute anæmia, coadded to the depressed morale of the mother, render her more prone to imperfect histogenesis, defective nutrition, and deranged nerve action? Will she be more liable to infectious disorders, such as ichoræmia, pyæmia, or septicemia, in consequence of the flabby and non-contracted uterine walls, the bruised condition of the lining membrane, and a lacerated cervix if *accouchement forcè* has been made?

It must ever be borne in mind that exhausting hemorrhages, whether *ante* or *post partum*, render the patient liable to all forms of the so-called puerperal fevers, and very decidedly tend to prevent a proper involution of the entire generative apparatus. Another serious apprehension is a subsequent hæmorrhage, if the cervix be lacerated.

In the examination of all cases for prophylaxis and treatment, these points should always be considered. The prognosis of placenta prævia for the mother is grave, and for the child very serious, and under certain circumstances almost necessarily fatal. Barnes, however, contends that the chances for the safety of the child have been very much improved since the introduction of his methods of treatment, notwithstanding its liability to perish because of non-viability from asphyxia or immature age, prolapse of the funis, as well as the risks and hazards of artificial delivery. He claims that twenty-three children were born alive in sixty-two cases of placenta prævia in his practice, and states his confidence in obtaining even a better result, "if the proper principles of treatment are applied, beginning at the onset of the flooding." This is certainly most cheering, when we compare it with results obtained in four hundred and ninety-four cases tabulated by Sir Sames Y. Simpson and Dr. Trask. In Simpson's tables, of one hundred and forty-one cases, only nineteen children survived the labor, and in Dr. Trask's three hundred and fifty-three, but forty-nine were living at birth. Out of four

hundred and ninety-four cases, but sixty-eight passed through the ordeal alive. These figures certainly are appalling, and it is no wonder that Rigby, Levret, Denman, Churchill, and Simpson were disposed to ignore the condition of the child in their treatment of the mother, particularly in those cases where the flooding was alarming, and the woman's dissolution seemed imminent.

The prophylaxis and treatment of placenta prævia, judging from the cumbrous and verbose literature of the subject, are far from being satisfactorily elucidated. The great numbers of facts with regard to the whole subject have been used in the manufacture of statistical tables to prove the theories of various writers, and much that would be of philosophic use has thereby become unwieldy and valueless.

The directions for the treatment of prævial placenta, up to the time of the publication of the papers of Sir James Y. Simpson, were altogether fragmentary and empirical, and even the views of the great Scotch baronet were too partisan and absolute. The statistics of Dr. James Trask are exceedingly curious and useful, and it is to be hoped that they may be revived and continued after twenty years of silence upon the part of that distinguished accoucheur. The papers of Dr. Robert Barnes are probably the most philosophic we possess on the subject of placenta prævia, yet he, like his Edinburgh peer, is somewhat prone to summarily pronounce against views not peculiarly his own. To cover the entire ground in the treatment of placenta prævia is not the object of this paper, but to develope certain salient and debatable points is all that will be essayed.

The condition of the patient, the period of her utero-gestation, and the stage of labor influence at once the question of treatment.

Upon seeing a case of ante-partum hæmorrhage, the accoucheur must rapidly decide upon the alternative of prompt, decided measures, with the probability of saving the mother, and if at full term, with a fair chance of saving the child also,

or he may choose the uncertain methods of expectancy. If this flooding depend upon the implantation of the placenta in the lower segment of the uterine cavity, the question of the immediate induction of labor must be decided. Of the two hundred and fifteen cases extracted from the tables of Dr. Trask, one hundred and sixty-one recovered, fifty-four died, but of the total only forty-six went to full term. Of the deaths, however, twenty-eight per cent. died before, and twenty per cent. at full term. From these data, Dr. Trask is of the opinion that the gestation should be conducted, if possible, to full term. My deductions are the very converse, because the hazards of sudden and uncontrollable bleeding, the almost certain death of the child, provided the mother lose much blood, the probability of saving it, if the operation be undertaken (after the seventh month) at the most opportune time selected by the accoucheur, and the absolute certainty of its necessity if the hæmorrhage be at all profuse.

Possibly the induction of labor, or rather the immediate delivery of the child may not be warranted, either from its death, or from the prostrated condition of the mother, but what is imperative, what I regard as a rule in all cases of placenta prævia attended with serious hæmorrhage, is to detach the after-birth partially or totally in accordance with the exigencies of the case.

Should this detachment fail to suppress the bleeding, then the uterus must be emptied as early as practicable without lacerating the cervix. The *accouchement forcè* should never be performed for reasons very apparent to every one—it must and can be avoided by the employment of other methods, presently to be considered. That the placenta should be partially or completely detached there can be not the shadow of a doubt, but why such detachment should control the flooding was in a measure misapprehended even by Sir James T. Simpson, who was the first to make any great advances in the method of treatment. He believed the sources of the hæmorrhage to be derived principally from the disrupted and non-

adherent surface of the placenta, as well as from the detached and exposed surface of the uterus, and that the hæmorrhage ceased because the sources of supply were wanting as soon as the after-birth was disrupted.

He also condemned partial detachment, because "the attracting power of the maternal circulation in the organ is, with the other moving powers of the blood, generally sufficient to keep the cells of the detached, as well as those of the adherent portion, filled with blood; and, at the same time, the circulation in the uterine arteries and veins in the immediate neighborhood continues to be more or less vigorously maintained, in consequence of their contiguity to the free tide of communication that is carried on between the uterine vessels and the part of the placenta that still remains fixed."

More extended observations by Dr. Robert Barnes induced him to promulgate the doctrine, that the hæmorrhage came from the gaping mouths of uterine vessels, springing from a flabby, non-contracted uterine tissue, and that this want of contractility was due to the adherence of the placenta to the cervix, the structure of which is not designed to keep pace, *pari passu*, with the growth of the placenta. The first cause of the hemorrhage is owing to the spontaneous detachment of the placenta, on acount of its excessive growth in relation to the cervix, and this offshooting sunders its connection, lacerates certain blood-vessels, produces intraplacental infiltration, which acts as an irritant, like any other foreign body, and arouses uterine contractions, which in turn produce farther sundering of the cervico-placental attachments.

Another point on which Dr. Barnes dwells, is his disbelief in the gradual shortening of the neck of the uterus in the last weeks of pregnancy, because he has frequently felt "the cervical canal entirely closed above by the narrow os uteri internum at the end of pregnancy." This clinical experience he farther corroborated by the dissection of women dying before labor had set in.

These views are now pretty generally accepted, and the idea of painless uterine contractions occuring during the ninth

month of pregnancy, in consequence of gradual dilatation of the os internum is being abandoned. The fact is, that most frequently hæmorrhage makes its appearance before there is any expansion whatever of the neck, and instead of the cervical walls being torn away, by contraction of tissue and expansion of the os uteri internum from an adherent placenta, the very converse is the result, the placenta tears itself away in consequence of its excessive relative growth, and the uterine vessels are bared and opened, and the great vascularity of the tissue to which it is fused invites the continuance of flooding.

These facts are so many reasons why the accoucheur should incline toward the induction of labor, as soon as he discovers the dangers incident to the faulty implantation of the placenta.

If the question of the induction of labor be not under consideration, if the patient be on the verge of, or actually in labor, the traditions of obstetrics teach us to puncture the membranes and give ergot.

So imperative has been this rule, that it has been blindly followed to the serious inconvenience, and possibly to the sacrifice of the mother, as well as to the detriment of a good practice. Safe and excellent in some cases, useless and inefficient in others.

Ergot administered by the stomach is frequently inert, and sometimes hurtful during the exhaustion following active hæmorrhage.

It is good only after stimulation—to wait for stimulation is to loose precious time, and the object of ergot is to induce uterine contractions sufficiently powerful to expel the child; and the tissue about the os internum can not contract as long as the placenta is adherent thereto.

The hypodermic exhibition of ergot might act more promptly, but why seek such contraction, or await the slow and uncertain separation in consequence of uterine contraction induced by the action of the drug, when the finger will do it much more rapidly and effectually. After the delivery, when

the uterus is flaccid, flabby, and inert, then the question becomes altered—ergot and the abdominal bandage are most useful, but should always be preceded by stimulation.

With regard to the rupture of the membranes, the rule holds good but for slight partial placenta prævia, and then only after the head has engaged. In this condition, the evacuation of the liquor amnii is followed by the head which jams and tampons the bared and bleeding cervico-uterine substance, at the same time it dilates the cervix by pressure from above downward, and thereby controls the hæmorrhage—it is the maternal hæmostatic, as the hydrostatic dilator is the obstetrician's hæmostatic. If the larger portion of the placental disc present, or if there be complete implantation, the evacuation of the waters involves more risk, and quite as much trouble as does placental detachment; even if we are successful in puncturing. When the larger portion presents, so little benefit will result in consequence of the thick boggy placenta being in advance of the head, that it is hardly worth the efforts made and the time lost. When the presentation is complete, the water can be drawn off only by perforation of the tissue of the placenta, and, as in the partial condition, the uterine contractions are seldom strong enough to drive the head down upon it, to be of any compressible power—we waste time, and the woman bleeds.

Ergot and puncture of the membranes are excellent in their ways, but should not be held as absolute modes of treatment.

Rapid dilatation of the cervix by means of the glove-stretcher action of the fingers, and the rude thrusting of the hand into the uterus, in order to rapidly turn and deliver, is based more on a mistaken notion of humanity than upon sound and safe practice.

In the procedure of *accouchement forcè*, there are several accidents to be apprehended, and mediate and immediate dangers threaten both mother and child.

Laceration of the cervix, either upon entering with the hand, or upon withdrawing the infant, is very apt to ensue—hæmorrhage as a consequence frequently results, and its source is often unrecognized—sometimes this may develope several days subsequent to the delivery; and fatal cases are recorded after the patient had successfully battled with the ordeal of placenta prævia.

The gaping laceration is the route by which septic poisoning passes into the lymphatic and vascular circulations, in consequence of the decomposed blood, altered uterine secretions, and lochia constantly washing its surfaces.

Puerperal lymphangitis, metritis, ichoræmia, peritonitis, and septicæmia follow in rapid succession, and under the enfeebling influences of the previous loss of blood, the system is not in any wise prepared to resist the inroads of the later attacks.

Rigby long since urged the dangers of *accouchement forcè*, The experience of many cases, and the substitution therefor of such safe and effective measures as placental detachment, and the introduction of the hydrostatic dilators (Barnes' or Molesworth's) lead us to condemn the procedure as unnecessary and unscientific.

The question as to the detachment of the placenta partially, or wholly, is evidently no longer mooted, and, for the reasons assigned by Dr. Barnes, to whom we are indebted for these great advances in the treatment of placenta prævia. Barnes first called the attention of the profession to this method in several numbers of the "London Lancet" of 1847, then more thoroughly elaborated the subject in the "Lettsomian Lectures," in 1857, and finally perfected his views in 1870, and incorporated them in his work on "Obstetric Operations." He found the means, and succeeded in applying them, when he demonstrated that the hæmorrhage could be checked by a partial separation of the placenta, and that he had a security against its return in the hydrostatic dilator, which not only compressed the bleeding vessels, but stimulated contraction of cervical tissue by the mechanical dilatation.

But as Simpson's views upon the total detachment of the placenta were not peculiar to him, because Mr. Kinderwood taught and practiced them in Manchester prior to 1830, so, too, the reasons for the cessation of hæmorrhage after a partial detachment were given, and the procedure practised in 1846, and promulgated in 1847 by Dr. R. E. Bland, then of St. Louis, in the "Missouri Medical and Surgical Journal."

The case was one of almost complete placenta prævia in which a large quantity of blood was lost, but the hæmorrhage was controlled by the pressure of his hand within upon the parieties of the uterus.

"Effective labor pains," says Dr. Bland, "having now almost entirely ceased, and discovering whenever the hand was withdrawn the hæmorrhage returned with increased violence, I determined to turn and deliver by the feet." In order to accomplish this manœvre, he first detached the adherent portion of the placenta, about the inner os, "the result of which," he continues, "to my gratification and astonishment, was the entire cessation of hæmorrhage and consequent danger. I now pushed the part of the placenta that obstructed the progress of the head to the left side, and held it there with my fingers, to prevent its descent before the head. I paused a few moments to consider the course to be pursued. In the short time allowed for thought, I determined to prevent, if possible, the descent of the placenta before the head of the child, and to sustain it until effective pains could be excited. To accomplish this, I gave thirty grains of ergot. In fifteen or twenty minutes I discovered considerable uterine action, which increased steadily, resulting, in about half an hour, in the birth of the child, alive and vigorous, etc., etc. The hæmorrhage came from the *bleeding mouths of the uterine vessels—not from the placenta.*

"Unequal separation of uterus and placenta prevented regular uterine contractions; hence the large vessels of the exposed uterine surface poured out their blood; and relief was effected by a total separation, and a consequent regular and general contraction of the organ closing up the bleeding mouths."

This case is quoted at some length, because I wish to put on record the claims of an old friend to at least the divided honor of properly reasoning out the causes of hæmorrhage in placenta prævia and its correct treatment, for which Dr. Robert Barnes, of London, is justly accorded so much credit.

Ever since the days of Levret and Rigby, the chief doctrine in the treatment of placenta prævia has been to eliminate the pregnancy, to deliver as soon as possible. It must be said, however, that Rigby recognized the necessity of having the os externum so much dilated, that the child might be drawn through without the production of laceration.

He was no advocate of the "accouchement forcè," but believed *that manual extraction of the fœtus by the feet is absolutely necessary to save the life of the mother.* This proposition has been, down to the present, accepted almost universally, and but little has been uttered against the sweeping nature of the enunciation. Version and rapid delivery are the key-stones in the treatment of placenta prævia, or at least are so considered by many on the authority of Mauriceau, Portal, Giffard, Smellie, Clarke, Collins, Schweighauser, Lachapelle, Gendrin, the Ramsbothams, Robt. Lee, Dewees, and Hodge. These authorities are not all as absolute as Rigby, but such treatment is indicated throughout their writings, and in terms of approbation not to be mistaken.

Simpson and Barnes, however, dwell upon the inefficiency of the operation of version in some cases, but they are not sufficiently explicit in the details of the management of such lesions. When questions like these arise, will version actually save the mother, or will not the shock of the operation materially affect the result, and is it not better to detach the placenta partially or wholly, or even deliver it, and wait for the child to be expelled by the unaided actions of the uterus, or deliver with the forceps?

These propositions seem to have presented themselves to Mr. Chapman, a surgeon and accoucheur of Ampthill, Bedfordshire, who published an account of a case in 1800, in which

he says, "from the expulsion of the placenta to the birth of the child was full four hours, She (the mother) lost little or no blood. How far does this suggest a different practice to that in general followed? I mean that of delivering the placenta previous to delivering the child, etc., etc."

Dr. Maclean published a case in August, 1845, in the "Northern Journal of Medicine," in which the hæmorrhage had been so great, that he preferred to wait, after delivering the placenta by detachment, rather than turn. In describing it he says, "The above case, from the alarming symptoms attending it, and the certain fatality which must have ensued had the flooding continued for a short time longer, with the immediate suppression of all hæmorrhage on the placenta being completely detached, thus allowing time for the patient to rally, would seem to prove the operation of turning in these cases to be almost needless," etc., etc.

The importance of these cases seem to have been underestimated by the various writers of obstetric eminence, even by Simpson himself, who used them in his tables only to prove the correctness of his views with regard to the total detachment of the placenta as the proper method of treatment. The deductions drawn from these cases, together with some few others scattered throughout the literature of placenta prævia, would be about as follows:

When the hæmorrhage has been exhaustive, and it has been checked by partial or complete artificial detachment, or by spontaneous complete separation, and the mother is much debilitated, wait for reaction, or stimulate up to that stage when it would be safe to deliver with forceps. In fact, nature unaided may, in the meantime, save the mother the shock of turning under such unfavorable circumstances as in Mr. Chapman's case. Experience, as well as *a priori* reasoning, is adverse to version *if the hemorrhage be checked and the mother much exhausted.* Why add the shock of intra-uterine manipulations to that already engendered by excessive bleeding?

The probabilities are, nay it is almost certain, that the child is dead, and the result, minus the turning, is at least but a doubtful one for the mother. We can lose nothing by waiting—we can gain much.

In the treatment of all cases of placenta prævia, the best results have been obtained by what is recognized as Barnes' method, viz.: If the hemorrhage be at all threatening, introduce the hand into the vagina, and the fingers into the uterus, and separate the placenta from its attachment around the internal os, so that the uterine tissue may contract and thereby close the bleeding vessels. Lest the vessels should continue to pour out blood, and no clots be formed to insure their perfect closure (physiological thrombosis), it is prudent and proper to introduce the hydrostatic dilator and make mechanical compression. The dilatation of the cervix is thereby rapidly insured, particularly in a multipara. Another great benefit produced by the dilators is the safety of the hydrostatic pressure, in case the cervico-uterine tissue fails to contract from paralysis at the seat of the placenta. Rokitansky and Klob speak of such a condition in the production of inversion of a portion of the uterus in the hour-glass or infundibulum like depression. Such is hardly probable in complete placenta prævia, but in the partial form, where the placental attachment may extend upward to the side of the uterus, it is not an infrequent cause of secondary or post partum hæmorrhage. Virchow long since established the fact "that contraction of the uterus, although essential, is not sufficient to arrest the hæmorrhage from the placental veins, and that closure of the compressed venous extremities is finally accomplished by a physiological thrombosis."

Klob also pointed out that "partial or complete paralysis of the organ is consequently a frequent cause of puerperal hæmorrhage." The fear of such paralysis at the seat of the placental attachment leads us to guard against the hæmorrhage by the hydrostatic dilators, under these circumstances, actual vascular compressors.

Realizing this fact of the necessity of physiological thrombosis by the maintenance of energetic uterine contraction, although he knew it only from clinical experience, Radford, of Manchester, in 1844, proposed the detachment of the placenta, and stimulating uterine contraction by means of galvanism.

Galvano-therapeutics, as applied to post partum hæmorrhages, has not received the attention it should, from the fact that the accoucheur rarely has the necessary batteries at hand, but, whenever used, it has been productive of most excellent results. After the detachment of a prævial placenta, I would not like to trust to it alone, but in conjunction with the hydrostatic dilators, it might be most useful and beneficial.

Not unfrequently placenta prævia is complicated with post partum hæmorrhage, on account of the non-contracted state of the organ, as well as paralysis at the site of the placental attachment, and these complications are formidable to combat.

The ordinary methods of controlling the hæmorrhage are not to be relied on, notwithstanding the statement of Dr. Savage, that he has "never met with a case of immediate post partum hæmorrhage rebellious to the old-fashioned practice." Under these circumstances, the woman is, in all probability, much exhausted from the ante-partum flow, and the retention or expulsion of a few ounces of blood is a matter of extreme importance, and the promotion of uterine contraction to ensure thrombosis of the patulous mouths of the vessels as rapidly as possible, is clearly the line of action to be pursued by the accoucheur.

Failing with the galvanic or faradic current, if such can be used, or finding the injection of cold water, or the application of ice to the uterine cavity avails us not, there remains but one other alternative, the injection of the sesquichloride of iron solution or the tincture of iodine.

For many years intra-uterine injections have been employed to arrest post-partum hæmorrhages. André Pasta recom-

mended and used them in 1750, and his dissertation upon uterine hæmorrhages was translated into French by Alibert in 1800. Pasta, then, is the author of this procedure, and not Guillon, whom Dr. Parvin* claims to be the originator, because in 1825 he used a decoction of oak bark successfully in a case of uterine inertia.

In fact, Guillon was seventy-five years later than Pasta, and nineteen years behind Dr. Wray, who published in the "Medical Times and Gazette," in 1856, that he had been successfully injecting vinegar and water *for forty years* in wombs whence the blood flowed in large quantities after delivery.

Dupierris, a physician of Havana, published in the "North American Medico-Chirurgical Review," January, 1857, the successful issue, in three cases, of the injection of the tincture of iodine in checking alarming post-partum hæmorrhages.

In 1857, Barnes, of London, brought the subject prominently forward, and since that day to the present, the question has been hotly debated pro and con., with the results, however, of directing attention to the fact that intra-uterine injection is the surest and quickest method of checking post-partum hæmorrhages.

There are many objections to be urged against the iron injections, yet, at the same time, Barnes, Herieux, Playfair, Braxton, and Hicks are very decidedly in favor of them, and do not seem to be at all discouraged by the opposition raised to the procedure.

Drs. Trask, Lente, and Byrne are not favorable to the iron injections, and the former gentleman is very much prepossessed in favor of Dupierris's iodine treatment, and grounds his opinions upon the three cases of the Cuban, as well as those of Dr. Emmet, whom he states to have "discarded the preparations of iron in all operations about the uterus, vagina, and rectum."

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* Address on Obstetrics, by Professor Theophilus Parvin, M. D., of Indianapolis, Indiana, Chairman of the Section of Obstetrics, etc., before the American Medical Association, at its meeting held in Detroit, June, 1874.

It must be borne in mind, however, that the operations and surgical procedures of Dr. Emmet were made on the unimpregnated uterus, and that Dr. Barnes is strenuous in his advocacy of the iron injections only in a uterus from which the blood is pouring, which has just been emptied of a child or an embryo.

Inertia, paralysis, and absence of physiological thrombosis, are causes and factors which must not be confounded with divided vessels and wounds made by the surgeon. Besides, the structure of the parturient uterus is different from the unimpregnated organ that responds to the reflex action of the irritation of iodine.

Thus far, we have not yet sufficient to positively accept the views of Dupierris, nor are the objectionable features of Barnes's method sufficiently obnoxious to be rejected.

It would probably be a good practice, first to try the iodine method, and that failing us, to resort to the iron treatment.

Another important question arising after or during the delivery, when the hæmorrhage has been checked, or even during its flow, is the propriety of transfusion. Ever since Denis (a surgeon who published a series of letters on the subject, Paris, 1667,) directed attention to his brilliant successes, or what were so considered at that time, we have had numerous efforts made by various individuals to revive the practice, and at the present time the question of transfusion is being subjected to such observations as will determine its real position in the therapeutics of uterine exhaustive hæmorrhages. Certainly the numerous and decidedly beneficial results lately obtained in Germany and England, in all classes of cases, would lead us to believe that the introduction of blood into an exsanguined body would be of vast and striking importance, and particularly applicable to those cases of acute anæmia engendered by uterine hæmorrhage. Unfortunately for our hopes and anticipations, transfusion does not seem to have been extraordinarily successful incases of post-partum hæmorrhage. In fact, Monneret believed it was utterly useless, and even ac-

celerated death in a case under his charge; and another woman transfused by Nélaton, although apparently somewhat benefited by the operation, died on the seventh day of metro-peritonitis. How much the metro-peritonitis depended on, or was connected with transfusion, is not known, nor could it be appreciated. Monneret was so much disappointed that in a communication to the Academy of Medicine of Paris, October 14, 1851, he stated, "A physician should always hesitate before performing this operation, when he recollects that the blood used in its performance is deprived of life; it is the cadaver of normal blood, and that it has no reciprocity with the new organs receiving it," etc., etc. His views in brief were, that a commingling of the blood of the recipient with that of the donor, and its passage into the nervous system, instead of producing a correct degree of stimulation, acted rather as a stupefier than otherwise, and that transfusion was unscientific and not physiological, on account of the use of blood elaborated by an organism totally at variance with that into which it was to enter.

Much has since been written by Simon, Thorna, Richardson, Aveling, Braxton Hicks, E. Martin, Leishman, Drinkard, and Fordyce Barker, and the deductions drawn therefrom still leave the question *sub judice*, although much is to be hoped from its employment in cases of hæmorrhages of the parturient uterus. In exhaustion following the floodings of placenta prævia, either before or after the birth of the child, I should not hesitate to transfuse, notwithstanding the negative results hitherto observed, not only in uterine hemorrhage, but in other cases of acute anæmia.

Compression of the aorta as a means of controlling post partum hæmorrhage has been strongly urged by various authorities for many years past. Notwithstanding Saxtorph, Siebold, Baudelocque, and Seutin, it did not become a prominent method of treatment until Chailly-Honoré and Duhamel revived it, the former claiming seventeen successful results in eighteen cases, and the latter three cases in which the patients

were saved the operation of transfusion. These statements must be received as statistical rather than practical, because they do not tally with the observations of many other credible and distinguished authorities. Cazeaux, however, is warmly in favor of the method. Unless compression of the aorta is made above the origin of the utero-ovarian arteries, hæmorrhage will not be controlled; the hypogastrics, of course, can send no blood to the lower segment and cervix, but the anastomoses are so free and abundant that the utero-ovarian vessels keep up the supply from above. The most serious objections to aortic compression consist in the inability of the accoucheur to continue the operation, unassisted and unaided, sufficiently long to be of much avail, and, in women of much adipose tissue in the abdominal walls, the procedure is hardly practicable. That it may be a precious resource no one will deny, and it might be tried in conjunction with other methods prior to the operation of transfusion.

Some very satisfactory results have been obtained by bandaging the extremities from toes to hips, and from fingers to shoulders, in post-partum hæmorrhages followed by extreme exhaustion and syncopical manifestations, and since the introduction of Esmarch's elastic rollers, very much more powerful means are at our command to confine the blood within the limits of the tripod of life.

New York, No. 117 West 34th Street, 1875.

Art. II.—The Sale of Medical Diplomas, etc. An Interesting and Instructive Address, by Dr. Henry M. Bullitt, of Louisville, Ky., to the Graduating Class of the Louisville Medical College.

The long established-custom of inviting the public to witness the formal assumption by the graduates of our Medical Colleges of the duties and responsibilities of practical membership in the Medical Profession, is eminently proper, since

these duties and responsibilities involve correlative or answering obligations on the part of the public, which are not always duly appreciated and sufficiently respected. You have, to-night, pledged your lives to the service of your fellow-men, not, however, as slaves, to obey without questioning, but as philanthropists, whose relationship to the served must be one of monition and authority, and not of obsequiousness and submission. You will, it is true, be bound to comply and to serve, but you must also have the right to exact and command. You enter into service of your own free volition, but under the banner of a profession which claims, in the interest of humanity, the privilege of attaching such conditions to its services as forbid the idea of submission to any other obligations than such as are enjoined by the great law of humanity, which requires all men to render prompt and willing aid to their fellow being in trouble and affliction. This great law, however, it must be admitted, addresses itself with peculiar force to the members of the medical profession, who claim to have rendered themselves, by special study and discipline, experts in the employment of means known to be capable of alleviating human suffering and saving and prolonging human life. As educated members, therefore, of the Medical Profession, you must cheerfully accept and respect the qualified servitude imposed upon you, and hold yourselves ever ready to use her beneficent means of prevention and cure whenever and for whomsoever your services may be demanded. In rendering such services you will often be compelled to make sacrifices of self, of personal feelings, of personal convenience and comfort, even of personal safety, for which you may never be adequately compensated. You will be called upon to discharge duties and to render services from which the best and bravest men in other walks of life are permitted to shrink and even to flee; duties and services from which you would gladly purchase exemption by the payment of many times more in money than you can hope to receive; nay, from which you would gladly flee, as other men, but for

the high moral obligations imposed by your profession, to forget self in your ministrations among the sick, to banish from you all idea of personal risk, and stand bravely at your post, shrinking neither from "the pestilence that walketh in darkness nor from the sickness that destroyeth in the noon-day."

You, of course, can not be expected to dedicate your lives to such service without the certainty of reasonable pecuniary compensation; but you would rate your profession far below its true dignity were you to accept the ignoble position of mere hirelings, and rest contented to render no higher service than can be paid for with money. Were you permitted by the ethics of your profession to deal with your patients as men in health deal with each other in other walks of life, and left at liberty to make bargains in advance of the rendition of your services, you would be often able to extort from the fears and sufferings of your victims such emoluments as would entail upon them impoverishment and desolation, for which restored health could scarcely be an equivalent. We see in the readiness with which the sick and suffering permit themselves to be duped and cheated by quacks and impostors, the best reasons for regarding our professional obligations as obligations of honor and philanthropy rather than of contract and barter; reasons why we must regard ourselves rather as the friends and protectors of our patients than as hirelings at liberty to impose upon their fevered minds and traffic with their tortured bodies.

Since, then, you are required to render services which can not be brought down to a money standard of value, services which are demanded of you as the appointed representatives of a humane and beneficent profession, in the interest of that profession, in furtherance of its benevolent intentions, you have the right to demand that the answering duties and obligations of your patients shall be fully and faithfully observed. You may, nay, must, exact a faithful compliance with your plan of treatment. It is your right, as well as

your duty, to insist that both your patients and their friends aid you in every possible way in carrying your plans and wishes into effect. All measures of prevention as well as of cure, of hygiene as well as of healing, must be rigidly adhered to.

The failure of treatment is often wantonly and censoriously charged upon the physician, in cases in which the want of success is really attributable to neglect or inattention to his directions. The most careful and skillful performance of duty on the part of the physician is often rendered nugatory by some seemingly trivial inattention or neglect on the part of the patient. Patients owe it to their physicians, owe it, indeed, to the profession, not less than to themselves, to give full heed and confidence to all directions, and it is especially incumbent upon them to deal fairly and justly with the feelings and reputation of their medical advisers. Non-compliance with the instructions of the practitioner not only endangers unjustly his professional reputation, but tends also to impair popular confidence in the medical art itself; and hence it is not only due to the practitioner that his treatment should have a fair trial, but also to the profession. Persons who have been unsuccessfully treated, are bound by every consideration of justice to avoid hasty, injurious criticism of the means employed, and to remember that imputations of malpractice are excusable only in cases in which there is conclusive evidence of willful neglect or of criminal ignorance.

The imputation of malpractice, even of criminal misconduct, may be justly preferred against any and every man who undertakes to practice any branch of the profession before he has prepared himself by a proper course of study. No crime can exceed in enormity that of a consciously ignorant person who tampers with the health and lives of his fellow men, by attempting to treat diseases of whose nature he knows himself incapable of making the proper estimate, by the use of medicines which are almost certain to prove injurious if not used in the proper cases, at the right time, and in suitable

doses. The mistakes of such a person are crimes which should be denounced and punished without mercy. Mistakes may occur, however, in the practice of the best informed and most skillful practitioner, but as such mistakes are often the result of deceptive answers from patient or his friends, or of improper reticence or concealment in reference to important facts in the history of the case, or may be only apparent, the untoward results of the treatment being really due to some damaging imprudence or culpable neglect chargeable to the patient or the nurses, the educated and fairly trained practitioner must not be condemned or charged with malfeasance unless the evidence against him is such as to leave no room for doubt. Such immunities, however, I repeat, are due only to those who have labored faithfully to so master Medical Science as to enable them to make the resources of both preventive and curative medicine promptly and fully available in giving relief to the sick and injured.

But beyond mere medical knowledge is the wider field for scientific and literary attainments, in which the leading men of your profession in all times have been largely distinguished. It has been truly said that "the literary and general scientific work of physicians has always had, and will continue to have, with the educated public, a large effect in elevating their profession and removing them from the character of mere successful traders." Physicians in all ages and in every country have attained marked prominence amongst literary and scientific aspirants. Sir Wm. Temple, in speaking comparatively of the profession, says: "Soldiers seem to have had the most honor, lawyers the most money, and physicians the most learning." Let me assure you that a good measure of general learning is really necessary to make you equal to the full dignity of the position which you assume to-night. Your influence will necessarily be felt in all classes of society. You will be thrown in familiar contact with all grades and descriptions of people: with those who think and with those who delve, with those who pilfer and

beg, with those who garner and give, with the idle and vicious, with the industrious and the virtuous: and when you reflect that you will be welcomed as the peer of the high, as the friend and guide of the low, you can readily understand how largely general learning may be made to increase the usefulness and enhance the dignity of your services.

In rendering such varied and multiplied services it is evident that you should not be circumscribed or restrained by ideas of contract or barter. The question of reward must necessarily be determined after the service has been rendered, since you can never be certain beforehand just how much you may be required to do. But, as it is left to you to decide as to the amount and kind of service which may be needed, it is clearly a decision which must be based upon strictly just and honorable considerations

Neither the question of the good done the patient, nor that of personal exposure or danger incurred by the physician, should be allowed to influence this decision. Were these considerations permitted to influence and direct you in making your demands for compensation, there would be many cases in which no charge could be regarded as exorbitant. As most men are apt to value their health and lives as above price, they could not reasonably complain of any pecuniary demand, when such demand came to them supported by the plea that your own lives had been risked in giving them the benefits of your professional skill—a plea which can be often made with entire truthfulness and justice. It was the boast of a distinguished Roman physician that "whoever understands medicine thoroughly is never sick," and this false notion has always met with more or less popular favor. But in truth the notion is entirely fallacious. Medical men expose themselves daily to the greatest danger during the prevalence of pestilential and contagious epidemics. They are constantly exposed in their long night rides in ordinary country practice to hazards of various kinds, and in all large cities they suffer from the miasms of fever districts in much larger

proportion than any other class of well-to-do people. According to well authenticated statistics between 1819 and 1843, one-half of the physicians of Irish Medical Institutions were attacked with fever, and in the single year of 1847 there were 123 deaths from such attacks, one-third of all the deaths occurring in the profession being due to this disease. When compared with the proportion which the deaths from fever amongst the ordinary population have to the mortality from all causes, this result showed the fever deaths amongst medical practitioners to be from thirty to forty times greater than among the general population. In the same year in Edinburgh, of twenty physicians resident at the fever hospitals twelve contracted the disease, whilst every one of nine attending physicians was attacked, and four of their number lost their lives. These results are not exceptional, but have been incident to all pestilential and contagious epidemics, and are liable to be reproduced wherever such epidemics are permitted by the carelessness or culpable neglect of public authority to acquire unmanageable proportions.

In view of such risks on the part of the physician and the immense value of the service rendered, it would be difficult to fix the rate of compensation by any of the rules or usages which obtain in the ordinary transactions of trade, and hence efforts are made by the practitioners of every community to adopt a uniform standard of fees adapted to the circumstances of their people. Of course this standard differs in different communities, and hence no rule can be given you, but that which enjoins a strict observance of the fee-bill of your local medical society, or in the absence of such society that of the county or district or State should become your guide. Your charges against the rich should never be below the maximum of the local tariff. Full charging will benefit rather than injure you. Undercharging, which is practically underbidding, will always lower you in the estimation of just and discerning people. Sensible men will never think the less of you for placing a high value upon your services, whilst they

are always ready to accept as just a low estimate of them when such low estimate is first self-imposed. I think it may be truly said that no men are more cheerfully paid than doctors; and with equal truth that no people pay them more generously than Americans. The merchants especially will be found generally willing to pay full fees; indeed, during their prosperity they are usually lavish in their liberality; whilst all other classes of rich people will pay doctor bills quite as cheerfully as they pay other debts. This liberal disposition, however, must not be abused nor imposed upon. Let your rule be full fees, but no extortion. Guy de Chauliac, a great surgeon of the fourteenth century, and one of the most admirable characters to be met with in the whole range of medical history, says the medical practitioner should be "gracious to the sick; generous to his companions; wise in predictions; chaste, pitiful, and merciful; not covetous nor extortionate of money, but receive a moderate fee, according to his labor, the abilities of his patient, the character of the issue or event, and his own dignity."

Thus, gentlemen, your profession will give social position; it will give you the esteem and friendship of all classes just in proportion as you make yourselves worthy; it will give you fair compensation, wherever the recipient of your services is able to pay. But a large proportion of your patients may be too poor to pay full fees—many too poor to pay anything. What are you to do with these? Hippocrates taught his disciples to regard medicine "as a principle of humanity, and not merely as a means of obtaining profit and glory;" and from his day to the present, gratuitous service to the poor has been enjoined as a duty by medical teachers, and cheerfully rendered by all true physicians. From Roman history we learn that the services of the profession to the poor were fully recognized and often acknowledged, under all the various changes of government. The many special grants of citizenship to foreign physicians, the numerous special edicts exempting medical practitioners from the burdens of taxation,

are so many evidences of the benevolence and unselfish devotion of Roman physicians of both the Republic and the Empire. When at a later date universities sprang up in the West, of which that at Salerno was for several centuries the most famous, we find that all who received the medical diploma were required to swear "to be faithful to good conduct, to submit to the rules of the profession, and to give gratuitous attention to the poor." Arago, a distinguished French scientist, not connected with the profession, and therefore a fair witness, in commenting on the shameful condition of the hospitals of Paris at the close of the last century, asks "to whom should we impute the long duration of this vicious and inhuman organization? To the professors of the medical art? No, no! By an inconceivable anomaly, the physicians and surgeons never obtained more than a secondary, a subordinate influence over the administration of the hospitals." No, no; the sentiments of the medical body for the poor could not be doubted at an epoch and in a country where Dr. Anthony Petit thus answered the irritated Queen Marie Antoinette: "Madam, if I came not yesterday to Versailles, it was because I was attending the lying-in of a peasant who was in the greatest danger. Your Majesty errs, however, in supposing that I neglect the Dauphin for the poor. I have hitherto treated the young child with as much attention and care as if he had been the son of one of your grooms." Preference was granted to the most suffering, to those most in danger, disregarding rank and fortune. Such was the sublime rule of the French medical corps, and such is still its gospel. I want no other proof of it than those admirable words addressed by Larrey to his friend Tanchou when wounded at the battle of Montmirail: "Your wound is slight, sir; we have only room and straw in this ambulance for serious wounds. They will take you into that stable." Dr. Samuel Johnson, the great lexicographer, testifies to a like spirit amongst British physicians: "I believe every man has found in physicians great liberality and dignity of sentiment, very prompt effusion of benevolence

and willingness to exert a lucrative art where there is no hope of lucre." John Abernethy, the greatest in his day of the London surgeons, summoned urgently to one of the dignitaries of the realm, proposed to obey the summons after his visit to the hospital. Reminded of the dignity of the patient, and pressed for an immediate visit, he promptly replied, "Private patients, if they do not like me, can go elsewhere, but the poor devils in the hospital I am bound to take care of."

Your profession never has been, is not now, and never can be, a legitimate field for the operations of the spirit of trade. There is scarcely an instance in its history of a true physician having acquired by its legitimate practice what the business world calls fortune; and whilst a few of its members may have accumulated and laid by a provision for the moderate wants of a family, hundreds have spent inherited fortunes in benevolent undertakings, and thousands passed long lives of honorable and philanthropic usefulness without appropriating to their own uses more of the hard-earned emoluments than were demanded by the actual necessities of existence. In the face of the many tempting examples of the easy and abundant success of imposture and quackery which are constantly brought to their notice, and which, to the selfish and mercenary, would be as the golden apples in the path of Atlanta, true physicians have in all ages proved virtuous enough to press forward in self-denying devotion to the noble end of their human mission; at once avoiding and denouncing all false pretensions, all the impudent and deceptive assurances so profitably used as means of trade by the various advertising quacks and nostrum venders. To prostitute the beneficent intentions of a humane profession to the mercenary ends of self-interest at the sacrifice of its dignity, or its just and well-earned claims upon the confidence and reverence of frail and suffering men, is to degrade it to the condition of a criminal trade. No crime can exceed in turpitude that of imposing, by false assurances, upon the facile credulity of the sick and suffering. Coleridge tells us truly, "Man is a dupable animal. Quacks

in medicine, quacks in religion, quacks in politics, know this, and act upon that knowledge." It has ever been the policy and the endeavor of the profession to protect mankind against the deceptive arts of the quacks in medicine, and to this end it has carefully excluded from its fellowships all traders in patent or proprietary medicine, all dealers in high-sounding and false promises.

Trade has its legitimate work, its legitimate fields of labor, and when we reflect upon its immense utility, not alone in effecting the interchange of commodities between the different nations of the earth, but its not less mighty influence in effecting the diffusion of the arts and refinements of civilized life, and in opening thus the way for the Christian missionary and the Bible, we are compelled to recognize it as one of the most effective of all the various instrumentalities in promoting the welfare and enhancing the happiness of the human race. In nothing, indeed, is the truth of the old maxim, "*Tempora mutantur et mutamur cum illis*," more strikingly exemplified than in the change which has taken place in the world's estimate of the relative or comparative merits of human occupations. Aristotle, in his writings on politics, declares merchandizing to be ignoble, and Cicero, in his ethics, denounces petty trading to be irredeemably base, and wholesale trade as barely not felonious. Now, the man who ventured to utter such sentiments would be made speedily to realize his folly and insignificance by the contempt of the denounced, or, if of sufficient importance to receive notice, might find himself proscribed and excluded from the most attractive social advantages afforded by modern civilization. When working within its legitimate sphere, its dignity is as pronounced as its utility is unbounded. But when, leaving its appropriate orbit, it undertakes to dispense for lucre to sick and helpless people assumed remedies—for bodily or mental maladies, according to its rule, "*caveat emptor*"—it acts in defiance of the most sacred obligations of human fellowship. The sick man is in no condition to bargain with the

mountebank, who offers what purports to be a certain cure for his supposed disease. It has been truly said, human credulity is too strong to resist the bold and unblushing assertions of the mountebank, and hence to his hand is readily committed the care of "the most precious gift of heaven," and, for this reason, the trade in falsely-certified specifics is immoral and mischievous to the last degree. There is but one other trade that could approximate it in baseness, and that would be the trade in medical education.

The sale of Medical Diplomas to unworthy applicants; clothing the uneducated with legal license to do what can be safely done only by the thoroughly instructed; prostituting the mantle of professional protection to cover up and excuse the sins of imposture—this would be even more revolting to the enlightened moral sense than the trade even in worthless nostrums. I would gladly believe that such a trade is morally impossible; but medical history furnishes several conspicuous examples of it. There existed at one time in the great city of London, agencies of some Continental Universities by which Medical Diplomas were openly advertised for sale; and more recently, a Philadelphia Medical College attempted the same trade, both in this country and England, but the traffic was soon suppressed, and the charter of the offending College promptly repealed by the Pennsylvania Legislature. Other examples might be cited, and it may be that the faculties of many of our best Medical Schools have been indulgent over much to unqualified candidates, and thus through mistaken, nay, culpable forbearance on the part of these appointed guardians of its portals, unworthy persons have occasionally found their way into the profession through schools with able and honest Faculties. When the Diploma had no legal value, this forbearance might reasonably find apologists; but now, that many of our State governments have by special legislation made the Diploma necessary to the legal practice of the profession within their limits, the schools are placed under additional and much more imperative obligations to

withhold it from all unworthy or unqualified candidates, and the obligation should be held as especially imperative in the case of applicants who, having been legally disqualified by wise legislation, now seek the Diploma not from choice but necessity. This class have, in many instances, much to unlearn before they can begin to build upon a sound basis It was the custom of a celebrated Greek teacher of oratory to demand a double fee from those pupils who had been taught by others, for in such cases he had not only to plant but to root out. It can not be doubted that whoever engages in the practice of an art without previously studying its science, is likely to get his mind filled with mischievous errors. This is especially true of the complex and difficult science and art of medicine. The obvious intention of these recent legislative enactments was not merely to force undergraduate practitioners to place themselves in proper social relationship with the profession of which they claimed to be members, but rather to compel them to complete and perfect their professional educations, to the end that the public might have the services of safe medical advisers; and as such intention is eminently commendable, it is the imperative duty of the Medical Colleges to foster and encourage the policy of these laws, and see that they are not rendered nugatory by the extension of undue facilities to those upon whom they are intended to act.

It is of no moment to the public what the rate of tuition fees may be in a Medical College; it is of little moment what the length of the lecture terms may be; it is of small moment whether the medical student studies one or many years, or whether he attends one or many courses of lectures, but it is of moment, of the utmost moment, that the Medical Diploma should testify to the truth and nothing but the truth, and that no man should receive it who is not really qualified to do what it authorizes him to do, that is, to fill with dignity and success the sacred office of "human healer."

The successful prosecution of the work in which the med-

ical profession is now engaged is of too great importance to the welfare of the race to justify the employment of unskilled or inexperienced workmen. Descartes, two centuries since, declared, "if it is possible to improve mankind, medical science will give us the means thereof;" and Carlyle, than whom no one is more at home in all the realms of thought, testifies that "the profession of the human healer is naturally a sacred one, and connected with the highest priesthoods, or rather, in itself the outcome and acme of all priesthoods and divinest conquests here below."

The Diplomas which you now hold admit you into this sacred priesthood, and certify that you have diligently studied to qualify yourselves to administer its beneficent offices; that you are willing and worthy to have committed to your care a share of the high and noble responsibilities which must rest more heavily upon the profession of the present and the future than even of the past, because, in addition to the great problems of cure which have been too exclusively the care of the past, the present and future must grasp and solve the greater question of prevention. In the "Ecce Homo," one of the most remarkable books of the century, these additional responsibilities are thus eloquently stated: "No man who loves his kind can in these days be content with waiting as a servant upon human misery, when it is possible in so many cases to anticipate and avert it. Prevention is better than cure; and it is now clear to all that a large part of human suffering is preventable by improved social arrangements. When the sick man has been visited and everything done which skill and assiduity can do to cure him, modern charity will go on to consider the causes of his malady—what noxious influence besetting his life—what contempt of the laws of health in his diet or habits may have caused it, and then to inquire whether others incur the same dangers, and may be warned in time. Christ commanded his first followers to heal the sick and give alms; but He commands the Chris-

tians of this age to investigate the causes of all physical evil, to master the science of health, to consider the question of education with a view to health, the question of labor with a view to health, the question of trade with a view to health; and while all these investigations are made with free expense of energy and time and means to work out the reärrangement of human life in accordance with the results they give." This great work, so necessary to the future improvement and well being of the human family, must be done, if done at all, under the instruction and guidance of the medical profession. In commissioning you to participate in the glory of such noble undertakings, we hold ourselves as bound by every consideration of duty and honor to aid, encourage, and support you by every means at our command. It is especially due to you that the standing of your alma-mater should be so strengthened and her influence so enlarged that you can never be ashamed of her. You have the right to expect of her Faculty such diligent endeavor in the discharge of their professional duties as will enable you to point to her with satisfaction, if not with pride, as the nursery of your initial medical life. The public estimate of the value of the medical diploma, indeed of the dignity of the profession, has already been impaired by the mad race of downward competition which has recently characterized the course of many of our Medical Colleges. The rivalry of legitimate emulation is to be commended in all human enterprises, because emulation which springs from ambition to lead in the race of usefulness and honor simply stimulates to legitimate effort to attain high and noble ends. Such emulation works by upward and not by downward competition. No degree or kind of triumph which is to be gained at the cost of honor, or dignity, or usefulness, can ever satisfy it. It seeks such triumphs only as tend to elevate and ennoble. The rivalry, on the contrary, which works by downward competition and endeavors to lead in the race, by offering meretricious inducements to attract vulgar or venal support, or to win the applause of the ignorant and

thoughtless, rejoicing in its shame, will gladly accept ignoble success at whatever cost of dignity and honor. It may by such unworthy means gain temporary triumphs, but must soon or late end its course by ruining what it attempts to foster, and disgracing what it pretends to respect. In view of the danger from such downward competition, which, it was believed, threatened the standing of the Medical Schools of the West, less than six years since, nine medical gentlemen of this city, all possessed of more or less experience as medical teachers, and some of them amongst the oldest teachers in the city, determined to found the Louisville Medical College, hoping to make it in some measure instrumental in arresting the evil, and restoring the business of teaching medicine in Kentucky to the relative position which it held in the better days of Transylvania and the Louisville Medical Institute. The most mischievous form in which this downward competition had then shown itself was in the general reduction of tuition fees to so low a standard as to amount practically to the offer of free medical education to all applicants. Amongst many reasons assigned for this sweeping reduction, but one seemed to possess any force in the estimation of the founders of this College. The war from which the country had just emerged had left desolation and poverty in its wake throughout the entire South and in many of the Middle and Western States. This impoverishment had overtaken multitudes of families, in which were sons capable of making useful and honorable members of the medical profession, but then too poor to incur the expense necessary to carry them through the required course of study. So far as making provision for this class of persons was motive to the act of lowering the College fees, the founders of this College were prepared to go as far as the farthest, and to give it their cordial indorsement. But they failed to see any sufficient reason for offering these liberal terms to persons who had not only not suffered from the war, but were, probably actual gainers, as was unquestionably the case in some parts of the country

from which Louisville Medical Colleges draw pupils. Whilst the offer, therefore, of special facilities to those who had been made poor by the fortunes of the war not only commanded their approval, but challenged and received their admiration, they thought it a mistake to reach the meritorious cases by opening wide the College portals to all comers, and granting to the unworthy and the independent immunities and advantages to which none but the worthy and necessitous had rightful claims.

The founders of this College believed that the general reduction or lowering of fees would prove a temptation to many unfit and unqualified persons to look to the Medical Schools as affording the cheapest and easiest road to an occupation, whilst the fit and the qualified would be driven by the fear of such a result to seek fields of labor where they might find more congenial fellowship. Hence the problem before them was this: to establish a school of medicine worthy to receive and wear the mantle of the schools of an earlier day, which had reflected honor upon the profession of the State, a school that could take rank with the best in the Union, and at the same time provide for the extension of ample facilities to all the deserving who might come to them, from any part of the Union, claiming the hospitality of science.

It is needless to give here the details of the mode in which the problem was solved. They are known to all men who concern themselves about medical schools. They have been fully given in every annual circular without equivocation or concealment, and the entire policy of the school is vindicated by its remarkable success. But, if it needed other vindication, this might be found in the fact that, in all the respects in which it differs from the practice of other American Colleges, it is in accord with the long established policy of the German Universities, now regarded as the best in existence. From an admirable examination by a French professor of university education in Germany I make these extracts:

"The higher German education has been reproached with the fact that the cost is higher than it is with us." Without doubt the sums paid to the professors at the beginning of each six months soon exceed the trimestrial fees of our French students. But one ought to take into account certain conditions which lessen the expenses of studying in Germany. The professor can always at his pleasure exempt a student from the payment of his fees. He always does this for foreigners who bring letters of introduction to him, and we have everywhere found that this hospitality of knowledge is generously practiced. Another custom grants the same exemption to the sons of professors, and of all the dignitaries of the universities, even down to the secretary. The faculty itself can remit all or half the fees to such students as shall prove their poverty, and at the same time give evidence of merit and ability. The number of those who profit from these immunities is estimated at one-fifth." From this we learn that fees are remitted in favor of the needy, but are demanded in full of such as are able to pay. And this is as it should be, for unquestionably a good medical education is of such intrinsic value that it would be cheap at almost any cost. To say nothing of the chances of using it for purposes of gain, the fact that it introduces its possessor to the fellowship of a body which numbers seventy thousand members, and constitutes the largest community of educated persons in the Union, would of itself make it valuable, whilst the humanizing ,and mind-enlarging influence of the various sciences embraced in its curriculum can not be overrated.

Another innovation upon the former practice of American colleges has been introduced into our place of instruction, also derived from the universities of Germany. It has long been the custom of professors in German universities to carry on two or three courses at the same time, for each of which a different fee is exacted. They are styled on the programmes, "*publice*," "*privatim*," "*privatissime*." The lectures "*publice*" are those for which the student pays the minimum fee.

These are given to the larger classes, or at least have the more numerous attendance. The "*privatim*" courses consist of conferences or recitations, and are also held in university rooms. These courses develope more fully points of special practical importance, and bring the student into closer relationship with the professor. In the courses "*privatissime*" the pupils are admitted to still more familiar intercourse with the professor, and, of course, have a still better chance of becoming acquainted with his peculiar methods of working and thinking.

In conclusion, I trust you will excuse me for referring to the present healthy condition and the flattering prospects of your *alma mater*. She has had, during the session, a large class, the largest in the Mississippi valley. Her graduating class bears to the whole number attending, the normal proportion of from a fourth to one-third. It would be easy to show by reference to statistics that this has been the usual proportion in all the well regulated and prosperous schools of this country. In declining schools, the proportion of second-course students are apt to be larger than this, and the graduating classes may reach the proportion of one-half and more; and this proportion again may be exceeded by tempting offers of easy graduation. We are gratified to know that the proportion which this class bears to the whole number in attendance during the winter is such as to free your *alma mater* from any suspicion on either score. It is evident that she is not now threatened with premature decline, and it is equally manifest, from the fact that she has graduated not more than one-fourth of her class, that she has not offered undue facilities for graduation. An attending class of upwards of three hundred, with a graduating class of eighty-four, prove that the past at least is safe. No blot or stain dims the luster of her record, and you may feel assured that whilst her fortunes are in charge of the present faculty her future will be safe; and I trust that whatever may betide her in the distant time to come, she will ever remain worthy of the love and confidence of her alumni, a mother in fact as in

name, as generous as the earth to the fabled Antæus, a mother to whom they may always safely return to refresh their knowledge and renew their strength for the great battle of professional life.

ECLECTIC DEPARTMENT.

"Carpere et colligere."

Art. III.—The Relation of Puerperal Fever to the Infective Diseases and Pyæmia. An Address delivered at the Obstetrical Society of London, July 7th, 1875, by Fordyce Barker, M. D., of New York.

I feel that I have no right to waste any of your time in personal topics, except briefly to express my grateful appreciation of the honor that I have received at your hands, and to appeal to your courtesy to excuse such deficiencies as may be charitably ascribed to weakness of the vocal organs, or to that embarrassment which a stranger must feel in addressing such a body of obstetrical men on such a topic as puerperal fever. I may be permitted to say that this discussion is now watched with the greatest interest by your brotherhood on the other side of the Atlantic; but, as yet, this discussion does not appear to have led to that happy result spoken of by the Psalmist, that "maketh men to be of one mind in a house."

I shall aim, in the remarks that I am about to make, to confine myself closely to a discussion of the questions proposed to the Society, and to state my opinions, and my reasons for holding such opinions, in the most terse, compact language compatible with clearness. If these opinions seem to be in antagonism with a great majority of those which have been expressed in this discussion, I ask that they may not be regarded as partisan in their tone, but as a presentation of views necessary for a full and comprehensive study of the

subject. I ask, for such arguments as may be urged, that candid analytical sifting of evidence which is requisite for sound decision as to what is the true answer to the several questions now before us. I concede to all, and I beg all to concede to me, that it is the truth and not forensic success which is sought for by us all who speak in this discussion.

Of the six questions proposed, the second and third only admit a direct categorical answer of yes or no, and this will be one or the other, depending upon the answer given to the first question. If the first be answered in the affirmative, the second must be answered in the negative, and the third in the affirmative; or the answers may be exactly the reverse.

I suppose the meaning of the first question is clearly defined by the second and third to be, whether there is a disease peculiar to women in childbirth, never met with under any other circumstances, as distinct as typhus or typhoid fever, scarlet fever, measles, or small-pox.

I can not think that the proposer of these questions regards it as necessary that those who believe that puerperal fever is a *distinct essential* disease must, therefore, accept all the qualifying phrases of the first question. For example, "distinctly caused by a special morbid poison," is one of the qualifying phrases. Is this a necessary characteristic of a distinct disease? Has science yet determined the "special morbid poison which causes typhoid fever?" When a disease is induced by contagion or infection, then it is "distinctly caused by a special morbid poison." If the phrase had been "often caused by a special morbid poison," I should have accepted it as true of puerperal fever, as I believe it to be true of diphtheria and some other diseases. It is just this phrase which seems to have debarred Dr. Farre and Dr. Richardson at the last meeting from answering the first question in the affirmative. And here I wish to remark that it seems to me that the idea involved in this phrase has been a great barrier to a clear conception of the disease, and has greatly contributed to the obscurity and ambiguity of its discussion. It implies that puer-

peral fever can not be properly ranked as a distinct disease unless its cause can be proved to be an unit, "*a special* morbid poison." But this test is not demanded for many other affections which the profession universally accept as distinct diseases. There are many such which originate from multiple causes, so far as science has yet been able to determine, of which I may instance typhoid fever, diphtheria, erysipelas, and rheumatism.

The distinct character of a disease is determined by the evidence derived from three sources: the causes, the clinical phenomena, and the pathological anatomy. Some diseases give us proof of their distinctness by evidence derived from all three of these sources, others from only two, others from one alone.

Directly in connection and associated with the idea implied in the phrase "distinctly caused by a special morbid poison," is another idea, which fallaciously colors and obscures much of the reasoning on puerperal fever, and that is, that identity of cause must be followed by identity of result. In other words, a given cause, a special morbid poison if you please, known to develope a special distinct disease, must always produce this particular disease. In a wealthy family belonging to my *clientèle*, a year ago, I saw a lady dangerously ill from pyæmia, in consultation with Dr. Sayre, who was attending her for a traumatic injury. By our suggestion, the house was carefully examined by a plumber, but no defect was then discovered which could explain the source of the blood-poisoning. Very soon, three members of the family were severely ill from a typho-malarial fever. As soon as the condition of the patients would permit their removal, I insisted that the walls of the rooms covering the plumbing should be torn down, when it was found that there was a defect in the leaden waste-pipe sufficient to permit the noxious gases to permeate the house, but not sufficient to cause an escape of fluids to stain the walls of the rooms. During the past winter, I attended a gentleman with severe typho-malarial fever. His

residence was in a large house, constructed on the plan of the French apartments, which was entirely occupied by families of refinement and abundant means. During the time of convalescence of this gentleman, diphtheria appeared in another family in this apartment house. I saw the first child attacked, in consultation with Dr. Morris. Subsequently, the father and two other children, one of whom died, were severely ill from diphtheria. It is worthy of mention, that, while these were ill, the wife and mother was removed into another house, and she was confined with her fourth child, under the care of Dr. I. O. Stone, one of our most prominent physicians, and her convalescence was not impeded by any puerperal disturbance from either diphtheria, typho-malarial, or puerperal fever. On examination, it was found that the waste-pipes in this house were in precisely the same condition as that of the house of which I have just spoken.

Who can doubt that the pyæmia, the typho-malarial fever, and the diphtheria were all caused by the same "special morbid poison?" At the last meeting of this society, Dr. Playfair related some facts which recently occurred at Notting Hill, where puerperal septicæmia in a wife, "from which she barely recovered with her life," and diphtheria in the husband, "from which he nearly died," seem to have been due to the same causes which I have mentioned. I ask you to note the language by Dr. Playfair, for I shall again have occasion to refer to this. He says, "Who could rationally disbelieve that those two diseases were produced by the same *septic* poison?" One he names, because of his theory of its cause, septicæmia; the other, produced by the same cause, he names, from its clinical phenomena, diphtheria.

The other qualifying phrase to which I will simply allude, but which time will not permit me to discuss in detail, is the following: "as definite in its progress and the local lesions associated with it" as certain specified diseases. This qualification involves two distinct and different points, the clinical history and the pathological anatomy. I will only say that

in my judgment these several diseases mentioned differ in degrees as to their definiteness in progress and the definiteness of their local lesions, and consequently puerperal fever cannot be compared or contrasted with them as a group in these particulars.

I will now give my reasons for believing that there is a distinct disease which may be properly called "puerperal fever." I think the definition given in the *Nomenclature of Diseases*, emanating from the College of Physicians, is absolutely perfect: a "continued fever communicable by contagion, occurring in connection with childbirth, and often associated with extensive local lesions, especially of the uterine system." It is a disease which presents a group of general symptoms, independent of local inflammations, resulting from the absorption of some poison into the system. It is needless for me to discuss this point here, because it is evident from all that has been said that "localism" or "Broussaisism" has no *status* in this Society. Those who would call this disease septicæmia or pyæmia are in agreement on this point with those who call it a fever.

We can arrive at truth in medical discussion only by using language accurately. There can be no accuracy of idea without accuracy of language. It is the established usage of standard authorities in medicine to designate as fever all those diseases which result from the absorption of some poison which produce certain morbid blood-changes and give rise to certain general characteristic symptoms, where the specific poison is unknown. Under the denomination of fever are properly and legitimately included not only those diseases which are severally called typhus, typhoid, relapsing, remittent, intermittent, and yellow fever, but all the infectious constitutional diseases which occur either epidemically or endemically.

When the specific poison is known which causes the morbid blood-changes and induces certain general characteristic symptoms, the disease is named from that poison, and so we

have the accepted terms in medicine of uræmia, septicæmia, pyæmia, and others of like character. I will here only allude to the fact that none of this latter class are known to be contagious or to occur as epidemics. The point we are trying to settle is not a question of name, except so far as this: I doubt not that we will all agree that the name given to a disease should be significant and appropriate.

The gist of the matter, stripped of its superfluous and obscuring elements, lies in the inquiry whether there be a disease which attacks puerperal women and only puerperal women.

A necessary preliminary is to ascertain from what sources we are to obtain our evidence by which we can settle the question whether there be a distinct disease peculiar to women in childbirth. I think we will agree that this evidence must be derived either—1. From the causes of the disease; 2. From the clinical phenomena; or 3. From the pathological anatomy.

I do not think that we are able, at the present day, to derive much information from studying the causes of this disease in settling this question any more than we can in settling the question whether typhoid fever, relapsing fever, or yellow fever are distinct diseases. In a sanitary point of view, I think a study of the causes of this disease to be of vast importance, and for this reason I esteem the paper which was read by Dr. Braxton Hicks before this society in 1870 as a most valuable contribution.

If a puerperal woman, not protected by the immunity of a previous attack or by idiosyncrasy, be exposed to the poison of scarlet fever or of any other infective continued fever, I have no doubt that she will have scarlet fever, or whatever specific disease she may absorb the poison of. The puerperal state does not protect her from the influence of such poison. Dr. Hicks, as I understand him, does not claim that puerperal fever is only scarlet fever in the puerperal women, but names this as one of the causes in the same category with erysipelas, diphtheria, mental emotions, etc.

I think the evidence is conclusive to the minds of a great majority of the profession, established by numerous incontestable facts—facts observed not only in sporadic cases, but in very many epidemics which have occurred, not in hospitals or cities alone, but in epidemics which have ravaged large tracts of country in sparsely settled rural districts, that the poison of erysipelas may cause in women after childbirth a distinct disease, which some of us choose to call puerperal fever; and that the poison of puerperal fever, if absorbed into the system of a man or a child, will cause in that man or child erysipelas. But the clinical phenomena and the anatomical lesions which result from this common poison are so diverse as to warrant us in regarding them as two distinct diseases.

Of course it is quite needless for me to refer to the medical history of Great Britain for proofs of this assertion; but I may be permitted to refer to that of my own country for most striking corroborative evidence.

A reprint of Nunneley *On Erysipelas* was published some thirty years since, with notes by Dr. John Bell, of Philadelphia, in which he gives most striking facts in regard to several epidemics in the United States, in which erysipelas and puerperal fever have appeared together.

I will also refer to a valuable monograph on *Erysipelas and Childbed Fever*, by Dr. Thomas C. Minor of Cincinnati, published during the last year, and which I had the pleasure of reading on my voyage over. The work is based on a most painstaking and laborious study of the vital statistics of the census of the United States for 1870, and of a puerperal fever epidemic which prevailed in South Western Ohio in the winter of 1872. The work is well worthy of perusal by all who assume to influence medical opinion on the subject of puerperal fever. This careful study of these vital statistics by Dr. Minor does not appear to show any connection of typhus fever, scarlet fever, septicæmia, and pyæmia, with puerperal fever. Epidemic scarlatina was very seldom associated with an outbreak of epidemic puerperal fever; but epidemic ery-

sipelas was "*invariably* associated with an outbreak of epidemic puerperal fever, or *vice versa*."

I have but a single remark to add in regard to the question of causes of this disease. The argument of those who deny that puerperal fever is a distinct disease, rests mainly on the ground that the disease so called is the result of a septic poisoning. Septic poisoning is a term now used very frequently and somewhat vaguely: but even those who contend that there is, properly speaking, no distinct disease of puerperal fever, do not allege that all the resulting disease from septic poisoning is one and the same thing, and that this disease should be called septicæmia. Is there anything improbable or unphilosophical in the hypothesis that septic poison, acting on a system in a peculiar state, such as never is found in the human system under any other conditions, the state which has been so graphically described in this discussion by Dr. Richardson and Dr. Farre, results in a distinct disease, which never is found except when the system is in this condition?

Has any proof been offered by any one, anywhere, that epidemic and endemic influences, noscomical malaria, contagion or infection, do not develope this poison in such a system, which results in a distinct disease?

We must find the answer in a study of the clinical phenomena and the anatomical lesions of the disease. If septic poisoning never occurs as an epidemic, I do not say endemic, among those who are suffering from traumatism, and if it never develops contagion in this class of subjects, and if septic poisoning in puerperal women does occur as an epidemic, and is contagious and infectious, are not these elements sufficient to warrant us in regarding the two diseases as quite distinct?

The advocates of the septicæmia theory of puerperal fever, both on the Continent and in this country, have seen that they must accept this issue, and consequently they are driven to deny that puerperal fever ever occurs as an epidemic, or that it is contagious or infectious. One of your speakers at the last meeting said: "I do not believe that there is any

specific condition justifying the name of puerperal fever;" and he logically adds "nor do I believe that there is any special miasm arising from the puerperal patient capable of being conveyed to another patient; nor do I think that there is any evidence whatever to show that there has been an epidemic of puerperal fever in the strict sense of that word."

The author of the Address on Obstetric Medicine before the British Medical Association last year, said in that address: "I have not been able to find anything worthy of the name of evidence to prove its epidemic prevalence at any time or in any large district." The same author, in his work *On the Mortality of Childbed and Maternity Hospitals*, says: "I feel certain, and believe I can prove, that an epidemic of puerperal fever never occurred." He also denies, with equal positiveness, that the disease is ever contagious.

Now if, during certain years or seasons, puerperal women in a given territorial district die of a disease, call it either puerperal fever, puerperal pyæmia, or puerperal septicæmia. in numbers fiftyfold or a hundredfold greater in proportion to the births than they have in preceding years, or than they do in following years, I think the profession generally would call this disease an epidemic. When the mortality from puerperal disease, call it puerperal fever or puerperal pyæmia, in that part of New York which is in the best sanitary condition of any part of the city, and in which are the residences of the most wealthy part of the population, in four months of the year 1873 is twenty times as great as it had been for twenty-five years before, and the percentage of deaths in proportion to births is more than double what it is in the parts of the city where the poor women are crowded in tenement houses, and quadruple the proportion of deaths during the same period from the same cause in the lying-in hospitals, I think we are justified in saying that an epidemic exists in this part of this city. If in Cincinnati, Ohio, in 1873, the number of deaths from puerperal fever was one hundred and twenty-two, while the annual average of deaths from this cause for

five previous years was thirteen and three-fifths, I think most men would say that the disease was epidemic that year. In view of all the similar facts abounding in medical literature, I will not borrow a phrase from one of the speakers at the last meeting, and say that those who deny that this disease ever occurs as an epidemic "must have minds which I believe to be not open to conviction;" but I will say that such persons must attach a subtlety of meaning to the word epidemic not consonant with the common sense. Please to observe that I use the article, and say *the common sense*, as otherwise the remark might seem discourteous.

I will not detain you now by a discussion of the question of contagion, for all have undoubtedly fixed opinions on this point. Those who regard puerperal fever as a distinct disease, believe it to be "communicable by contagion;" while those who believe it to be only pyæmia or septicæmia in women after childbirth, do not consider the disease contagious.

Can a woman after childbirth be exposed to the danger of receiving the poison which produces typical septicæmia in larger doses than when she has retained within her uterus a portion of decomposed placenta? If puerperal fever be septicæmia, would not the disease under these circumstances appear in its most virulent forms? But we all know that this is far from the fact. One very important idea in this connection was first distinctly enunciated by Dr. Barnes in this Society some years ago; and that is that septicæmia in puerperal women is not actively contagious. "When arising from decomposition of the placenta, it generally began and ended with the patient attacked." During this discussion, Dr. Braxton Hicks has expressed a very similar sentiment; and I feel quite sure that all clinical observers will coincide with this statement.

I will submit for your examination the following propositions:

1. The clinical phenomena of puerperal fever are quite different from those which are met with in surgical septicæmia or pyæmia.

2. These affections do not occur in puerperal women, and the result is a disease which does not constitute a continued fever "communicable by contagion."

3. When either of these affections complicate puerperal fever, they modify the clinical phenomena by symptoms which can be distinctly appreciated and described by any close observer.

I will not take up your time by giving the evidence on which these propositions are based, because I think that this has been done in a work *On the Puerperal Diseases*, which it will be indelicate for me to refer to in more definite terms.

I will add only a few words in regard to the pathological anatomy of the disease now under discussion. On the first evening of the discussion, Dr. Richardson argued that there were no local lesions "which would lead us in the dissecting room in any case to say this was a case of puerperal fever, as we should say this was a case of scarlet fever or of typhoid or of typhus fever." I think it would be impossible to prove by the anatomical lesions that scarlet fever or typhus fever, or relapsing fever, are distinct diseases. A child is put in bed at night apparently well. A few hours afterwards, it is awakened by vomiting, it is very delirious, its pulse is very rapid, and the temperature is six or seven degrees higher than is normal, and the child dies in the early morning without the slightest irruption on the skin. No anatomical lesions can be found to characterize the disease. But scarlet fever is epidemic in the neighborhood, or another child in the same family is taken ill with well marked scarlet fever within a few hours after the death; and any physician would feel warranted in registering the cause of death as scarlet fever. Such cases are not very rare, and, I dare say, have been met with by several gentlemen now present. Would the most able of the recent authorities on the continued fevers—would Sir William Jenner, or Murchison, or Hoffman, or Lebert—insist that no one would have a right to register a death as resulting from typhus fever or relapsing fever, unless certain

characteristic anatomical lesions are found in the dissecting room? All of these writers declare that these diseases have no pathognomonic lesions.

It was asserted by the author of the Address in Obstetric Medicine, that "pathologists believe that they have torn to tatters the view" that the disease we are now discussing "is an essential fever peculiar to puerperal women, as much a distinct disease as typhus or typhoid."

When? How? Where? Show us the proof. Is there evidence that such pathologists have studied the disease anywhere except in hospitals and large cities, where the disease is very probably complicated with septicæmia or pyæmia?

Of what value would be the researches of the ablest pathologists of Germany or England on questions relating to the pathology of yellow fever, if such a pathologist had no opportunity of studying this disease except in Germany and England? Have Spiegelberg, or Schroeder, or Schmiedeberg, or Mayrhofer, or Orth, or Heiberg, or Olshauser, or Fehling, or Cohnstein, or Breisky, or Von Haselberg, ever studied puerperal fever as it is found in epidemics in rural districts, where pyæmia and septicæmia are rarely met with? German is a difficult language to acquire; and it gives an attractive appearance of learning to introduce such names, even if nothing be quoted from them. I am familiar with their writings, and would not undervalue the merit of their researches; but so far as the elucidation of the question now under discussion is concerned, I think it of equal importance that we should carefully study for the clinical phenomena of the disease your English classical writers—Hulme, Leake, Kirkland, Clarke, Gordon, Hey, Armstrong, and Robert Lee. The hint on this point thrown out by Dr. Farre at the last meeting seemed to me most appropriate and timely.

What progress is made in science? Now do "we free ourselves from error," or gain in scientific precision or accuracy of description in giving to this disease a new name—pyæmia, as Dr. Duncan would call it; while he confesses that it has

no etymological signification in this disease, and, in fact, has no definite positive meaning?

What propriety is there in giving to an obstetrical disease a name significant and appropriate to a surgical disease, unless it can be demonstrated that the two diseases are identical in their clinical phenomena and their anatomical lesions? The burden of proof to show this identity belongs to those who would call the disease puerperal septicæmia. Some think that the negative has already been established.

I have neither the time nor the voice to discuss the other questions which have been proposed. With my warmest thanks for your courtesy in listening to me so patiently, allow me to close with the suggestion that it may be well for all of us who discuss puerperal fever to remember the exhortation of Oliver Cromwell, when he lost patience with a Scotch Assembly: "I beseech you, brethren, by the mercies of God, conceive it possible that you may be mistaken."—*British Med. Journat.*

ART. IV.—A CASE OF MOLLUSCUM SIMPLEX, WITH ILLUSTRATIONS. By JOHN A. OCTERLONY, A. M., M. D., Professor of Materia Medica, Therapeutics and Clinical Medicine in the Louisville Medical College, and in the Kentucky School of Medicine, &c., &c.

Writers on Dermatology, and observers of widest experience in this specialty, very generally agree that well-marked cases of molluscum simplex are far from common. However, it is not only on account of the rarity of the disease I am induced to publish this case, but because it presented the most exaggerated development of molluscum simplex I have ever seen. Tilbury Fox quotes a case recorded by Prof. Ebert, of a man who had one hundred and seven tumors. In the last edition of his work on diseases of the skin, he mentioned another case which he saw at Prof. Von Hebra's clinic in Vienna. In

this the whole body was covered by the tumors which were of all sizes. The wood-cut illustrating his article certainly displays a very well-marked case, but I believe in the instance here reported by me the tumors were more numerous than in either of the cases mentioned above, and were not only of all sizes, but furnished specimens of all varieties of shapes that have ever been described.

The patient, *Martha Clay*, was a negro woman, a widow, and by occupation a cook. She believed herself to be about sixty years of age, had been twice married, and had borne eleven children. Her health had been remarkably good through life, and she could not recollect having ever been seriously sick. She had known both her parents and grandparents, but all of them were entirely free from this affection, Her children have also enjoyed the same immunity except the youngest, who, at the time she first came under my observation, was twenty two years of age. A year or two had passed since she had last seen him, but at that time the tumors were not so numerous on his as on her own body.

The disease first showed itself when she was about eleven years old, and the first tumor appeared on the posterior aspect of the left shoulder, and finally became one of the largest growths on her body, there being only two exceeding it in size. From this starting point they began to spread in every direction, until, as shown in the accompanying wood-cuts, they invaded almost every region of the skin.

The tumors were never painful, and the disfigurement and inconvenience of their presence were the only causes of her complaining of them. Those growing on the hairy scalp occasionally rendered it difficult for her to comb her hair, and she would then have one or two of the largest and most inconvenient excrescences snipped off with scissors. This gave sufficient opportunity for examining their structure, which was repeatedly done.

On the back they were most numerous, next the chest and abdomen, next the scalp and face in proportion to the sur-

face. On the lower extremities the tumors were more numerous than on the upper; the anterior surface was not so thickly covered as the posterior. The buttocks and hips were comparatively free, and so, though in a less degree, were the extremities, especially the forearms and legs. The external genitals were covered with small tumors, and one of larger size was of such form and dimensions as to look somewhat like a penis. In the wood-cut it has been placed by the artist a little too far to the left side.

The soles of the feet were perfectly free, and so were the palms of the hands, except on the right, where a globular tumor was situated very near the wrist.

The tumors varied from the size of a mustard seed to that of a hen's egg. The greatest diversity was noted as to texture and form, hard and soft, smooth, rough and corrugated; pisiform and pyriform, pendulous and sessile, globular, ovoid and lobulated, these and other shapes were all represented.

In order to ascertain the number of tumors, the surface of the body was marked off into regions with chalk, and these again into smaller sections. The tumors situated in each were then counted with the following results:

There were, on the face and ears, 55 tumors; on the anterior aspect of the neck, 30; on the chest, 300; on the abdomen, 348; on the anterior aspect of the right upper extremity, 51; on the anterior aspect of the left upper extremity, 35; on the anterior aspect of the right lower extremity, 118; on the anterior aspect of the left lower extremity, 104; on the scalp, 47; on the posterior aspect of the neck, 30; on the posterior aspect of the right upper extremity, 22; on the posterior aspect of the left upper extremity, 20; on the posterior aspect of the right lower extremity, 62; on the posterior aspect of the left lower extremity, 52; on the back, 1059. The total number of tumors counted was 2,333; but this falls short of the reality, as many of the smallest were covered by the larger ones and not included. The accompanying wood-cut, though a quite faithful copy of the photograph, taken during life,

does not, at first sight, convey an adequate impression of the excessively large number of these tumors.

Microscopic examination showed that the tumors were composed, in great part, of connective tissue, with masses of nucleated cells collected between the meshes. In some specimens the sebaceous glands were enlarged and their sacculi separated, so as to present a racemose appearance. In others, these glands had become so compressed by the growth of connective tissue, that they were atrophied and destroyed.

The patient remained under observation for several years, during which time she was exhibited to numerous classes of medical students. Shortly before Christmas, and while intoxicated, she fell down the stairs and broke her back. Being unable to move, and alone in the house, she lay in the hall throughout the night, and, when found in the morning, she had perished from cold. At the time of her death she was about 64 years of age.

ANALYTICAL DEPARTMENT.

"Qui e nuce nucleum esse vult, frangit nucem."—PLAUTUS.

EMPLOYMENT OF ASPIRATION IN INTESTINAL OBSTRUCTION.—We learn from the *Medical Times and Gazette* (London), that in a note laid before the Academie des Sciences, M. Demarquay states that the idea had occurred to him whether the same result that is obtained in gastro-enterotomy might not be attained by a simple procedure, which might be employed by any surgeon. When an obstacle suddenly opposes the course of the contents of the intestine, gas accumulates above the obstruction, producing tympanites, which is also accompanied by nausea and vomiting, the intestinal canal becoming paralyzed by the excessive distention. If, then, at the commencement of the affection, before any local or general per-

itonitis has supervened, we are able to relieve the tympanites by an artificial removal of the gas, we find the intestinal movements are sometimes re-established, and with these a disappearance of the obstacle occurs. M. Demarquay has met with three cases in which he has had recourse to this procedure with success.

He gives a summary account of the last of these cases. It occurred in a man aged twenty, who was admitted into his service on February 28th, with all the signs of intestinal obstruction, the commencement of which dated from the 23d. There were present, nausea, mucous vomiting, considerable tympanites, restlessness, and suffocating paroxysms due to the thrusting up of the diaphragm. On the 26th, the patient's condition was still more aggravated, and four intestinal punctures having been made—two on the right and two on the left side—by means of Potain's capillary trocar, a large quantity of gas was drawn off by aspiration. The abdomen immediately became flaccid, to the great relief of the patient, and the noise of the motion of gas in the canal, due to the re-establishment of the peristaltic action, was heard. As on the 27th there was still tympanites present, displaying the form of the convolutions of the intestines under the wall of the abdomen, a large quantity of gas and liquid intestinal matters were withdrawn, by means of four additional punctures. In the course of that afternoon all symptoms of obstruction had disappeared.

A Case of Exstrophy of the Bladder, by G. J. Jones, M. D. Read before the Ohio State Society.—This malformation is not very common, at least I have only been fortunate enough to see this one case, and like a boy who has found a new kind of flower, or a shining pebble, I am anxious to show it to my associates. This case which I have to present was born about six months ago. Dr. J. R. Moody, of this city, officiated at the delivery. I saw the case in consultation with him when the child, a female, was about one week old.

Exstrophy of the bladder is much less frequent in females than in males, as all the reports which I have seen give only one tenth of the whole number of cases as being females.

Formerly these cases were left undisturbed, but the later text-books on surgery give the usual methods of operation.

The method of operation which seems to me most applicable is that known as *Wood's Method*, from having been particularly recommended by Mr. John Wood of Kings' College (London). He dissects up a flap of integument of a rectangular shape reaching upwards to the umbilicus, rounds off the angles, and inverts it so as to cover in the space where the integument is deficient. He then dissects up a similar but smaller flap from each groin. These are not inverted but partially rotated so as to cover with their raw surfaces the larger flap, and are secured in position by sutures. The patient is then placed in bed in a sitting posture with the knees flexed. After the raw surfaces have healed there remains a small opening near where the urethra should be, through which the urine constantly escapes, making it necessary to use a urinal of some kind. Great relief however is obtained in not having a large surface uncovered by integument and constantly irritated by the clothing.

I should not advise any interference in this case until she is five or six years old, when, if the parties are willing, we propose to operate by the above method.

Treatment of Uterine Fibroids by Hypodermic Injection of Ergotine.—Prof. Hildebrandt (*Amer. Jour. Obstet.*, Feb , 1875) records nineteen additional cases of myo-fibroid tumors of the uterus treated by the hypodermic injection of ergot. From these and a review of the results previously contributed by himself and other observers, he regards as established the following points : The treatment is likely to be most beneficial,

(1) When the tumor is richly provided with muscular tissue, and possesses the consistency and feel of a tense elastic cord.

(2) When the tumor is submucous.

(3) When the walls of the uterus are sound, capable of vigorous contraction, not too much attenuated by dilatation, or stiffened by exudation into their substance, and when there is no para or peri-metritis present.

(4) As soon as the chronic metritis and peri-metritis, which frequently accompany fibroid tumors, have been removed by the proper preparatory treatment, when the previously mentioned conditions again come into force.

(5) When the tumor is unprovided with a capsule, and merges directly, without a boundary, into the peculiar tissue of the uterus, which anatomical relation of uterine fibroids may be considered most favorable to their complete cure by absorption.

The solution used in these injections was made by adding to three parts of Wernich's ext. ergot, twelve parts of water, and three of pure glycerine. Of this solution forty-four drops were used at a single injection. From the great number of injections made by himself he has never seen an abscess. This he ascribes to the fact that he injects the solution deep into the subcutaneous tissues. The pain is least when the injection is made near the umbilicus, and the patient remains quiet for several hours afterwards.

Uterine Hemorrhage Arrested by Injections of Hot Water.—Dr. Windelband (*Brit. Med. Jour.*, Feb. 13, 1875—*All Med. Central Zeitung*) says that he has used hot water injections with the best of results, in a considerable number of cases of uterine hæmorrhage, from a variety of causes, as abortion, placenta prævia, fibroid, and other tumors of the uterus—*post-partum* hæmorrhage, profuse menstruation, etc. He believes that hot water acts upon the uterine muscular fiber more energetically than cold water, with or without astringents. He makes this injection with an ordinary uterine douche, the water having a temperature varying from 95° to 100° Fahr.

Carriere on Uterine Cancer.—In a work on uterine cancer, Carriere (*British Medical Journal*, June 13, 1874) reaches the following conclusions respecting the character, prognosis, and treatment of this disease.

(1) Although cancer of the uterus is looked upon as incurable, yet in certain cases, by judicious treatment, results nearly equivalent to a cure may be obtained.

(2) When the disease is limited to the external os, excision of the neck of the wound should be performed without delay; relapses may thus be put off for an indefinite period.

(3) Extirpation of the entire organ is at all times a dangerous operation. In cases in which the whole organ is affected with cancerous degeneration, the operation is not only useless, but it must hasten the patient's death.

(4) When removal of the tumor becomes impracticable, the life of the patient may be prolonged for a certain time, by destroying the morbid tissues with the galvano-caustic wire or caustics.

(5) When the disease is beyond the reach of art, nothing more can be done than to have recourse to simple palliative measures, and thus relieve suffering.—*Detroit Med. Journal.*

Special Points in Spencer Wells' Ovariotomy Operations.—Dr. B. F. Dawson (*American Obstetrical Journal*, November, 1874) gives the following points of interest concerning the ovariotomy operations of the most successful of ovariotomists:

(1) The number of persons present is limited to from three to eight—not more.

(2) All strangers are obliged to sign a paper, stating that they have seen no case, nor been in any place which would render them liable to bring infectious germs to the operating room.

(3) To avoid exciting the patient, no one is allowed to see the patient except when under the influence of an anæsthetic.

(4) The anæsthetic preferred is bichloride of methylene, because it produces less nausea and vomiting. Mr. Wells

says that "by this anæsthetic the patient has all the advantages of complete anæsthesia, with fewer drawbacks than I have ever obtained by the use of other anæsthetics."

(5) The patient is secured from all movement by strapping the arms and legs to the table.

(6) In case the tumor was found closely adherent anteriorly, and to the edges of the abdominal incision, he empties the cyst, enlarges the opening, seizes the inner surface of the cyst with a strong pair of forceps, just beyond where it is adherent, makes firm traction, thereby inverting the sac and liberating it from its adhesion to the abdominal walls, the last portion to come away being that attached to the abdominal incision.

(7) Immediately on emptying the tumor, Mr. Wells is exceedingly careful that no blood or cystic fluid enters the peritoneal cavity, and to this end has his assistants sponge the wound carefully, and compress the lips closely together, at the same time that they are held up and their edges kept dry, while he is busy adjusting the clamp.

(8) In closing the wound Mr. Wells takes special care that it be closed tightly about the pedicle, so that no blood or secretion from the decomposing stump can enter the peritoneal cavity.

(9) In dressing the wound a few crystals of perchloride of iron are applied to the pedicle, strips of folded lint are carefully adjusted beneath the clamp, around the pedicle, and pads of the same over the wound. These serve to soak up whatever secretion may occur.

Large pieces of cotton wool are next placed over the entire abdomen, and the same kept in place by broad strips of adhesive plaster. Over all a broad flannel bandage is passed.

The Relation between Congestion of the Uterus and Flexion.—Dr. John Williams (*London Obstetrical Journal*, Nov., 1874) in an exhaustive paper, reaches the following conclusions:

There is no evidence to show that a physiologically in-

creased flow of blood through the uterus, occurring periodically, or that erections of the uterus favor or cause chronic congestion of the organ. Exposure to cold during a menstrual period is not a common cause of congestion of the uterus. Simple congestion is a rare affection of the virgin uterus.

Flexion, accompanied by congestion, is not an uncommon affection of the organ in its virgin state. The effects of congestion on the uterus are at first slight enlargement, through distension of its vessels, then slight softening, from exudation into its tissues, and, lastly, enlargement of the organ and induration of its tissue. The increase in weight of the body of the virgin uterus, arising directly from congestion, is probably equal to the weight of about two drachms of blood. The effects of congestion on the uterus are such that it is not possible for such a small force as the weight of two drachms of blood to produce flexion of the organ. The condition of the uterus from the time of impregnation to the fourth month of gestation militates strongly against the view that congestion is a cause of flexion.

The effects of flexion on the uterus are occlusion of its canal, leading to dilatation of its cavity, and congestion and thickening of its walls.

The increased flow of blood through the flexed uterus just before menstruation does not diminish but increase the flexion. Simple flexion of the uterus gives rise to congestion and hypertrophy of the cervix, by compressing the venous plexus around the insertion of the vagina into the uterus. In retroflexion, the body of the uterus and the veins of the broad ligament may be grasped by the sacro-uterine ligaments, and thus become greatly congested.—*Detroit Med. Jour.*

Uterine Displacements Treated by Position—Dr. H. F. Campbell (*Atlanta Medical and Surgical Journal*, June, 1875) strongly recommends the well known knee and breast position in the treatment of uterine displacements, etc. To obtain the proper

benefit from this position it is necessary that the vagina be opened, to admit the air. To accomplish this he has devised an instrument, both efficient and cheap. It consists essentially of a glass tube, of various forms, from two and one-half to three inches long, slightly curved near the end, and bulbous to admit of easy introduction.

A Case of Dilated Heart from Valvular Lesion, in which the Right Ventricle was tapped by error, not only without harm, but with relief of Symptoms.—Dr. George Evans related the particulars of this case at a late meeting of the Clinical Society of London (*British Medical Journal*, May 29, 1875). A woman aged twenty-seven was admitted into the Middlesex Hospital, under his care, on February 22d, 1875. She was then suffering from acute rheumatism and heart-disease: probably the result of a former attack of the same disease. The area of præcordial dullness was increased; there were murmurs at base and apex, and there was considerable dyspnœa. By the 26th, the præcordial dullness had increased considerably; there was very obvious bulging of the chest-wall; the heart-sounds were "muffled;" the distress of breathing was excessive, threatening very speedy death; and, on consultation, it was determined to tap the pericardial cavity, with the hope of relieving the more distressing symptoms. A fine trocar was introduced by Mr. Hulke, to the depth of about half an inch, in the fourth interspace, about half an inch to the left of the sternum. On removing the trocar, a gush of dark blood issued from the canula, and the instrument was felt to be moved in accordance with the action of the heart. The canula was almost immediately withdrawn, not more than about a drachm of blood having been removed. During the operation no change was observed in the patient's pulse; after it, she expressed herself as feeling relieved; and that night was the best that she had passed since admission. During the next few days she seemed better; the præcordial dullness gradually diminished. She had signs of pleu-

ro-pneumonia of the right lung at the time the operation was performed; and there was some fluid effusion in the right pleural cavity; and, later, in the left. After improving in general condition for a week or two, she gradually succumbed to general œdema, four weeks after the operation. It was decidedly the opinion of those present at the operation that the trocar was inserted into the right ventricle. At the *post mortem* examination, the heart was found to be extremely enlarged, with a universally adherent pericardium, the adhesion being evidently of considerable age. The interest of the case lay in the fact that (presumed) puncture of the right ventricle not only led to no ill results, but apparently gave temporary relief in a perfectly hopeless case; and it also illustrated the difficulty of diagnosing between pericardial effusion and an extremely and rapidly dilated right heart.

In reply to the President, Dr. Evans stated that no trace of a cicatrix could be found in the substance of the heart nor in the inner wall of the ventricle, although search was most carefully made. Mr. Hulke said there was no doubt that the fine trocar entered the heart, for it oscillated with the cardiac pulsation. Another time, he should prefer to connect the needle with some kind of exhausting chamber, and to push it very slowly; one might then stop immediately after fluid appeared. The position he had chosen he considered to be the best one at which to tap the pericardium; it was away from the heart's apex and the internal mammary artery. He was very much concerned when he saw the blood flow; but in half an hour, the woman expressed her thanks for the relief afforded her. Dr. Southey had seen a similar case at St. Bartholomew's Hospital, in which the trocar entered the left ventricle; and in a little while the patient died with the pericardium filled with blood. In that case the surgeon was quite sure his trocar had entered the heart from the movements he felt. The President remarked that was not due simply to the instrument perforating the heart, but to the subsequent pressure of the blood which escaped into the

pericardium. Dr. Broadbent quite agreed with the President in that remark, and thought the relief in Dr. Evan's case was not due to the escape of a drachm or two drachms of blood, but that the benefit was produced by the operation stimulating the heart to increased action, so that it could more thoroughly expel its contents. It was, in one sense, a pity that more blood was not taken at the operation. Dr. Yeo referred to a case in which puncture was made to relieve pericardial effusion. The child lived for weeks, and, after death, a scar was found in the heart, but no ill-effects had resulted from the puncture. Mr. Hutchinson asked if any adhesions of the pericardium were found in that case. Dr. Yeo replied "None." Dr. Farquharson gave particulars of a case which he had formerly brought before the Medical Society of London. The heart of a boy had been punctured by a knife to the depth of a half an inch at the apex; the accident was followed by intense collapse and pericarditis. In looking up the literature of the subject, he had found in the *British Medical Journal* reference to some observations by Dr. Steiner of Vienna, who had announced, as the results of experiments upon animals, that either ventricle might be punctured with a needle without evil effect, but that puncture of either auricle with the needle was always followed by fatal hemorrhage. The President, in reference to Dr. Broadbent's remarks, considered that two drachms of blood taken from an overdistended right ventricle might surely relieve it, enable it to act more vigorously, and so have a good effect.—*Med. Abstract.*

The Sounding Probe.—Such an instrument was made in Paris by M. Colin, at the time when a young man who had swallowed a fork was under treatment. It was called "résonnateur" or sounding probe. It has lately been used by M. Guyon upon a patient who foolishly had laid a wager that he would swallow a silver five franc piece. It penetrated pretty deeply, and feeling uneasy, the young man went into the Hospital Necker, where probangs were thrust down, and emetics,

with enormous quantities of water, were used. These means were fruitless, and M. Guyon had recourse to the sounding probe, which, when it had traveled half way down the neck, was heard to strike against the coin. Œsophageal forceps supplied with projecting teeth were then tried, and the foreign body fortunately extracted.

CLINICAL RECORDS.

"Ex principiis, nascitur probabilitas: ex factis, vero veritas."

ART. I.——ALBUMINURIA, ABSENCE OF GENERAL DROPSY—URÆMIC POISONING—DEATH.

C. C. Stevens, aged 30, a farmer, applied to me for examination and medical advice, April 24th, 1875. He states that his general health has been impaired for about two years, having suffered during that time several attacks of what he supposed to be muscular rheumatism. He states that during the past month his health has been so rapidly giving way that he is no longer able to follow his avocation as a farmer, and now desires medical treatment. His greatest difficulty at present, he states to be his entire inability to sleep, with a sense of suffocation on lying down, and a general soreness over his chest. On a careful physical examination, I found œdema in the posterior portion and lower lobes of both lungs. His breathing was somewhat hurried; pulse, 80; temperature, 99; bowels rather loose; appetite impaired; heart sounds normal. Not being at all suspicious of Bright's disease, from the entire absence of general dropsy, which I now very much regret, I was content to prescribe for the œdema of the lungs, and therefore ordered potassa bitart. and pulv. jalap in such quantities and at such intervals as to produce and keep up a free alvine discharge from the bowels. Also chloral hydrate, gr. xx., to be given at night to induce sleep, to be repeated if necessary.

On the morning of the 29th of April I was summoned by post to see Mr. Stevens at his residence. On arriving, and being ushered into the sick room, I was instantly struck with the œdema of the face, and began to suspect very strongly what I might have to contend with, but on the most careful examination the œdema could be traced no further, and the lungs by this time, under the treatment prescribed, had been relieved almost entirely. He was suffering with nausea, and vomiting a dark, grumous substance, of a very disagreeable urinous odor, which still further increased my suspicion that my patient was suffering with that most horrid disease, albuminuria. Pulse at this visit, 85; temperature, 100; urine, scanty. Not having with me any test tubes or acid nitric, I could not positively assert my diagnosis, but promised to see him again that evening, when I would be prepared to test his urine. Directing his attendants to preserve some of his urine in a clean vessel, I left.

On my return the same evening, I found his symptoms substantially the same, only his urine had been more scanty than usual and his nausea and vomiting more often and profuse. I immediately commenced the examination of his urine, which resulted as follows: Density, 1009. It was highly colored. It deposited albumen in abundance on exposing to heat and adding nitric acid. The reaction with test paper was acid.

On examination microscopically the sediment was found to contain epithelial casts, oil globules and blood globules in small quantity. My diagnosis was at once made: my patient was the subject of albuminuria in its most hopeless form, and the prognosis of course very unfavorable.

April 30th. Pulse, 87; temperature, 101; urine scant, almost suppressed, only passing about three ounces since last visit. Still deposits albumen in abundance. Nausea and vomiting continues. Frequent watery dejections from the bowels, accompanied with some tenesmus. Hiccough, with frequent eructations of wind with some temporary relief. Tongue now for the first time coated with a very heavy yellowish

brown coat. No appetite. Lies in a semi-comatose state, unless aroused, when he severely reprimands his attendants for not allowing him to rest. Œdema of lungs returned, more evident in posterior portion. Heart sounds normal.

May 1st. The patient complains of some pain in the abdomen, of frequent small dejections containing blood, and of belching wind with relief. The abdomen is moderately tender on pressure, but not distended any; no muscular rigidity; coma becoming more deep. After replying indifferently and imperfectly to questions he immediately relapses into a somnolent state. The face is congested; other symptoms the same.

May 2d. Dejections from the bowels not so frequent. Nausea and vomiting somewhat abated. Urine entirely suppressed, having passed none in twenty-four hours. Perfectly comatose, being aroused with difficulty, and falling into the same state as soon as permitted to remain quiet. Pulse, 90 and feeble; temperature, $101\frac{1}{2}$.

May 3d. All the symptoms substantially the same.

May 4th. Was sent for in haste, and found my patient with *convulsions* and all the symptoms of a speedy dissolution. Urine still suppressed.

May 5th. On this day it was noted that the patient was moribund. The skin was cold and moist. The pulse scarcely appreciable, and not much if at all accelerated. He was delirious, and the skin seemed to omit a urinous odor. Urine still suppressed, and at $1\frac{1}{2}$ o'clock P. M. he died. No autopsy was made. There is no doubt in my mind that a post mortem examination would have revealed universal disorganization of the secreting portion of the kidneys, connected, possibly, with fatty deposit. This would accord with the diminished quantity of urinary principles during life, eventuating before death in suppression of the urine. The excretion of urea being diminished and at length quite arrested, uræmic poisoning was the result of the accumulation of this principle in the blood.

The phenomena which occurred during the last few days of

his life are to be thus explained: Somnolency and mental apathy were the first symptoms, and succeeding to these, delirium, imperfect vision, coma, and death.

The diarrhœa which existed during his illness was probably due to an effort on the part of the intestinal mucous membrane to eliminate the urinary principles accumulating in the blood.

This supplementary action may have postponed for the time the toxical effects of the uræmia, but it was incompetent to prevent at length their development and the fatal issue of the disease.

Several interesting pathological questions arise in connection with the facts contained in the clinical history of this case. One of these relates to the nature of the poisonous agent in the circulation and the mechanism of its deleterious action. The excretion of urea, without doubt, is emphatically the important function of the kidneys. It is settled, I believe, that the excrementitious product is pre-formed in the blood, and merely separated by the renal organs.

The experiments made by Bernard, of removing the kidneys in inferior animals, proved that the accumulation of urea in the blood takes place under these circumstances: that death occurs in two, three, or four days, preceded often by coma and convulsions; that the gastric and intestinal secretions become more abundant after this operation, and contain the products of decomposition of urea, viz: the salts of ammonia in large quantity, and that vomiting and diarrhœa are constant events. The analogy between the results of these experiments and the effects of renal disease involving disorganization is very striking, and goes to confirm the pathological view which has just been given of the case detailed in this report. Bernard, however, in his work asserts, "that it is doubtful whether the accumulation of urea in the blood can be considered as constituting it a poison, in view of the fact that this principle may be injected into the veins of a living animal in large quantities without deleterious effects," and he is disposed to think that the toxical phenomena incident to

advanced Bright's disease, are due to the absorption into the blood of decomposed matter belonging to the kidney itself. But Bernard appears to overlook a very essential point of difference between the non-elimination of urea from renal or disorganizing disease of the kidneys and the introduction of urea into the blood, the renal organs remaining intact.

In the latter case the poisonous accumulation of this principle may be prevented by a corresponding activity of the secretory functions of the kidneys; in the former case, the poisonous accumulation takes place because separation by the natural channel is prevented, and the supplementary secretion through the gastric and intestinal fluids is inadequate for the elimination save for a short period. Moreover, the production of urea within the organism vastly exceeds the quantity which can be readily introduced by injection into the veins, and this production is unceasingly going on so long as life continues.

There seems no ground, therefore, to doubt that when the excretion of urine is greatly diminished or suppressed, the toxical consequences are due at least in great part to the retention of urea in the blood.

The occurrence of peritonitis, pleuritis, and pericarditis in cases of advanced Bright's disease is probably to be explained by the action of urea or of the products of its decomposition on these structures.

The absence of dropsy is a feature in the case worthy to be carefully noted. Here was a patient with the kidneys so completely disorganized that death was attributable directly to uræmia, who had not at any time presented dropsy as a symptom?

There was no œdema except in the face and lungs

Occasional existence of Bright's disease without general dropsy is sufficiently established, but the latter is perhaps much oftener absent than is generally supposed. It is probable that the existence of Bright's disease is often overlooked, because dropsy is generally deemed an almost constant concomitant.

This case illustrates the great importance of including an examination of the urine for albumen, among the points of investigation never to be omitted in any serious malady.

The treatment in the case which has been reported claims but a few words.

The discovery of the nature and extent of the renal disease did not lead to therapeutical indications from which much was to be expected. All that could be hoped for was the prolongation of life, by either increasing the secretory action of the kidneys, or aiding in the vicarious office of the intestinal canal.

For these ends diuretics and hydragogue cathartics were employed to some extent, but without any avail.

T. J. LEE, M. D.

Plattsburg, Miss., 1875.

ORIGINAL CORRESPONDENCE.

"Sit mihi Fas scribere audita."

New York, August, 1875.

Prof. E. S. Gaillard:

Dear Sir—The last meeting of the Pathological Society was an unusually attractive one, and as several of the specimens presented and cases reported were comparatively rare, perhaps some account of the proceedings may prove of interest to your readers. Dr. Finnell, the first speaker, exhibited a myo-fibroid tumor of the uterus, of the size of a large orange, taken from the body of a negress of from 22 or 23 years of age, who died of pneumonia.

It had been subperitoneal, and although two or three other similar fibroids of smaller size were present, the cavity of the uterus was entirely normal. Dr. F. remarked on the frequency with which fibroids occur in the negro race, and thought that they could be found, if they were sought for, in

the bodies of at least one out of three of all the negresses that died. One point of interest in this case was, that the tumor, when laid open, showed calcification to have commenced in several places—a rare occurrence so early in life.

Prof. Loomis, of the University, related the case of a gentleman of middle life who had been under observation for some time, with slight bronchial trouble and the chronic faucitis which all men have who indulge in champagne, oysters and cigars, late at night. His general health was excellent, and he was a particularly hearty eater, being able to take all kinds of food at all kinds of hours with perfect impunity. Although he had an intimate friend who was a physician, living in the same house with himself, he had never been known to complain of the slightest gastric disturbance either to him or to Dr. Loomis. On the morning of May 27th, he felt considerable abdominal pain, which he described as colicky and paroxysmal; but it did not prevent him from attending to his usual duties through the day. In the evening, however, he was seized with a most excruciating localized pain, situated on a line with, and almost two inches to the left of the umbilicus. The pulse and temperature were normal, and the pain seemed to be relieved on pressure. As he had recently been exposed to the danger of lead-poisoning, it was naturally supposed that this was an attack of lead colic, and the pain was so severe that it could not be controlled for over two hours, by which time he had taken 40 drops Magendie's solution of morphia. During the night he took 22 drops more, and the next morning he was still suffering. The pulse and temperature continued normal; but it was now noticed that the pain was increased on pressure, and a certain rigidity about the abdominal muscles gave rise, for the first time, to suspicions of peritonitis.

While Dr. Loomis was present he vomited, remarking immediately afterward that it was the first time he remembered having done so since he was a boy. Morphia was then ordered in sufficient quantities through the day to give him en-

tire relief from pain. By evening the pulse was 120, and there was a marked increase in temperature. A physician remained with him through the night, and administered a quarter of a grain of morphia every one or two hours, (enough to keep him semi-narcotized.) The patient's condition steadily grew worse, and by the evening of the next day, the 29th, the pulse had become small and thready, the features pinched, and the extremities cold. He died early the next morning, about fifty-eight hours from the first severe pain. Autopsy six hours after death. Evidences of general peritonitis, both old and recent. Peritoneum thickened to one-quarter inch, and marked pigmentation noticed in it. The stomach drawn downward and to the left, and attached by fine adhesions, and on its greater curvature (towards the left) a clean cut opening, of the size of a three cent piece, through its walls. On opening the stomach, an ulceration, three inches in one diameter and one and a half inches in the other, was discovered. It seemed to be in a state of rapid destructive progress, insomuch that a portion appeared almost like gangrene, and there were no evidences of any attempt at a reparative process. The base of the ulcer was entirely denuded of mucous membrane, and seemed to consist of cicatricial tissue. In exhibiting the specimen to the Society, Dr. Loomis said that the point of greatest interest to him was, how such an ulcer could exist without giving rise to any symptoms whatever. It was also interesting to note that there had not been that sudden collapse generally seen when an ulcer perforates the walls of the stomach, and that the presence of peritonitis had been so masked at first, though running its course with extreme rapidity when once declared. He thought the perforation had probably been exceedingly small at first, simply allowing of the passage of a little gas. Dr. Finnell remarked that he had been attending the meetings of the Pathological for a number of years, and, as far as he could remember, the history of these perforating ulcers of the stomach always showed that there were very evident symptoms of gastric irritation a

long time preceding. Dr. Janeway, who occupied the chair in the absence of the President, Dr. Delafield, said that he thought that the absence of vomiting probably due to the position of the ulcer. When the local affection (whether ulcer or cancer) was not near either the pylorus or the opening of the œsophagus, so as not to interfere with the entrance or egress of food, vomiting was not nearly so apt to occur. Then, individual idiosyncracies were always to be taken into consideration. He concluded, from an examination of the specimen, that there had been an old ulceration, giving rise to peritonitis, as indicated by the extreme thickening and pigmentation mentioned by Dr. Loomis, which had entirely escaped the patient's memory.

Later in the evening he presented a specimen of cancer of the stomach, also seated in the greater curvature, but more towards the pylorus than the ulcer above described. The nodulous mass was about three inches in diameter, and presented numerous points of ulceration, which had evidently given rise to the hæmorrhage, which had been the immediate cause of death: the stomach being found filled with blood.

In this case also there had been no vomiting or other gastric symptoms, but the liver had been ascertained to be greatly enlarged, with nodular cancers on its surface, which could be readily felt through the abdominal walls. These, however, were diagnosed to be secondary, and it was concluded that the original carcinoma was seated either in the gall-bladder or in the stomach. The patient had symptoms of jaundice, with clay colored stools. The liver when removed weighed 18 pounds, and was the largest that Dr. Janeway had ever seen, with the exception of a melanotic one, (secondary to melanotic sarcoma of the eye,) which reached the enormous weight of 25 pounds.

Dr. Satterthwait, Pathologist to the Presbyterian and St. Luke's Hospitals, presented a specimen of bloody tumor of the pancreas from a patient at St. Luke's, with the following history. He was a man of 36, a clerk by occupation. Since

1867 he had had several attacks of jaundice, which were quite obstinate, and he had also been subject to frequent hæmorrhages from the bowels, nose, &c. While in hospital, a scratch on the lip bled so profusely that it resisted all styptics, and could only be controlled by mechanical pressure. The patient had had syphilis, and Dr. Satterthwait was inclined to think that this had perceptibly influenced the case. He was suffering from one of his attacks of jaundice when admitted to the hospital, in May, and was even then quite emaciated. He gradually lost ground, and finally died from asthenia. After death, a large pouch, involving a considerable portion of the substance of the organ, was found connected with the pancreas, and it was filled with coagula, both recent and of long standing. About a foot of the small intestine was also engorged with blood. There was no atheroma of the arteries.

Dr. Janeway said he had had charge of the case at Bellevue for some time before the man went to St. Luke's. He had then made out the diagnosis of obstructive jaundice. As an emetic sometimes affords great relief in these cases, he gave him apo-morphine by hypodermic injection, and produced emesis in fifteen minutes, though without any appreciable benefit. Dr. Janeway thinks highly of this agent as a prompt emetic. In one of his cases it acted in one and a half minutes, and in another in three minutes. After a careful consideration of the present case, he had come to the conclusion that the following was the only satisfactory explanation, (since no other hypothesis, such as biliary calculus for instance, would account for the symptoms and lesions noted.) There had been originally a catarrh of the pancreas, which had probably occluded, temporarily, the duct, so that there had been an accumulation of fluid, (pancreatic secretion, and not blood, at first.) In the beginning there had been but a small pouch, but afterwards this gradually became enlarged, till quite an extensive sac was formed. This being distended with fluid had pressed on the *ductus communis choledochus*, (whose lower portion was of smaller calibre than normal, though its upper

part. as well as the hepatic and cystic ducts were found considerably dilated at the autopsy, and given rise to the jaundice. The bile, being thus thrown into the general circulation, impoverished the blood, and the hæmorrhagic diathæsis finally resulted. When the cyst became distended to the utmost degree, (now by both the natural secretions and the blood effused or transuded,) it probably forced a passage through the occluded duct and evacuated its contents into the duodenum. This same process seems to have been repeated several times, the quantity of blood each time increasing, and thus were occasioned the successive attacks of jaundice, which were only terminated when the pressure was removed from the common choledoch duct by the evacuation of the cyst.

Prof. Alfred Post exhibited some bloody excrescences of the head of the penis, involving nearly its entire extent. He had shaved them off clean with scissors, and then thoroughly seared the whole surface with the actual cautery, which he finds a most admirable application in such cases Dr. Janeway spoke of the efficiency of bichloride of mercury and collodion, (10 grs. f3i.) in these growths upon the genital organs, as used especially at Charity Hospital.

Dr. Post said he had never tried it, and then presented a considerable portion of a sub maxillary bone which he had removed on account of a fungoid growth involving the part. The patient was 55 years of age, otherwise healthy, and had first noticed the affection three months before. He did well after the operation, and new bone was now rapidly forming. The specimen had been examined microscopically by Dr. Satterthwait, who pronounced it non malignant, (although it presented some of the characteristics of epithelioma,) because ephithelioma was unknown in this situation.

During the past month, two papers were read by laymen at the Medical Library and Journal Association, an unprecedented occurrence in this Society, so far as we are aware. The first was really an admirable one, on "House Drainage," by General Egbert L. Viele. The second was by R. S. Guernsey, Esq., of the New York bar, on "the Penal Law relating to

Suicide in Ancient and Modern Times," and was rather an interesting historical study than a paper of any practical utility to our profession. The term "penal laws," he said, "is not used in its narrow legal sense, but in its broadest sense, of penalty of every kind in connection with this subject. As the penalty to a suicide can act only upon his reputation and that of the friends he leaves behind, the difficulty is to determine what is the most effective preventive. The first instance in Jewish history is that of Saul and his armor-bearer in the year 1055 B. C. Public opinion was against suicide among the Jews, according to Josephus, as the law required burial after sunset. In oriental countries suicide is esteemed to be meritorious, on the authority of the ancient sacred books of the Hindoos. In China it has been no crime for thousands of years. In Japan, when an official has committed an offense, it is a point of honor for him to put an end to his life, for which the sons are often rewarded afterward. Pythagoras, Plato, Aristotle, Cicero, Apulus, Cæsar, Ovid, Virgil, and others were opposed to suicide; but, in general, the laws of the Greeks and Romans recognized it as a right. In the first century B. C., the Council of the Bishops of Arles ordained that no religious rites should be performed over the grave of a suicide. After a time the members of the Christian Church took the ground that suicide was an act of insanity, and, in many instances, rendered void the decree against the rites of burial. As civilization progressed, the laws in regard to suicide were variously modified in accordance with this idea. When self-murder is caused by the encouragement of another, that party, by the statutes of New York, is guilty of being accessory to a murder. In regard to wills and insurance policies, the mere act of suicide is not a proof of insanity. That must be proved by itself. It is the duty of a State to protect its people from destruction from every source. The natural love of life and the fear of death are the strongest preventives of suicide, yet to create a higher moral sense against suicide, as against any crime, can do much to prevent its frequency."

In this city, during the early part of June, the American Neurological Society held its first session. This is an association recently established for the promotion of the study of neurological science, and is limited to fifty active members, residents of the United States, and twenty-five foreign associate members. A number of distinguished gentlemen from different parts of the country were present, and interesting papers and reports of cases read. The following officers were elected: President, S. Weir Mitchell, of Philadelphia; Vice Presidents, J. S. Jewell, of Chicago, and E. H. Clarke, of Boston; Corresponding Secretary, J. J. Mason, of New York; Recording Secretary and Treasurer, E. C. Seguin, of New York; Curator, J. W. S. Arnold, New York. Dr. Mitchell having declined the position, Dr. Jewell was chosen President, and Drs. Clarke and J. D. Miles First and Second Vice Presidents.

Dr. Hammond created considerable feeling by offering a resolution to the effect that superintendents of lunatic asylums be excluded from membership, on the ground that they have associations of their own.

It is a little difficult to see why a physician ought not to belong to two or more societies, simply because he happens to be connected with an asylum; and it certainly looks as if personal animosity prompted the resolution, which was offered just after the name of Dr. Gray, Superintendent of the State Asylum at Utica, had been proposed for membership.

Dr. Gray's and Dr. Hammond's views are totally at variance on many points, and as is well known there is no love lost between them.

At the New York Hospital, for the relief of the ruptured and crippled, 5,023 cases were treated last year, and this number exceeds by 389 the number treated during the previous year. During the twelve years of its existence, 31,471 patients have obtained relief through it. This institution is doing an admirable and much-needed work, especially in supplying the indigent with trusses and various forms of

orthopœdic apparatus absolutely necessary for the proper treatment of the cases.

On the first of August the Department of Public Charities and Correction opened a training school for nurses in the hospital on Blackwell's Island, under the supervision of the Chief of the Medical Staff. Lectures will be given on nursing, food, ventilation, midwifery, &c., and the course of instruction will occupy two years, at the end of which time graduates will receive a diploma. This school will be under Roman Catholic auspices, and seems to have been started as a sort of opposition concern to the one that has been so eminently successful at Bellevue, which is, however, we believe, entirely free from any sectarian influences.

During the past month the census-takers have been very busy counting noses among the good people of Gotham; and as it is alleged that there were many frauds in connection with the last census, five years ago, it is hoped that a correct estimate of our population will now be arrived at. As there ought to be an average of at least 2,000 persons for each of the 575 districts into which the city is divided, this would bring it up to 1,150,000.

The enumerators, of course, sometimes meet with some very curious customers in the course of their rounds. When one of them applied to a certain Mrs. Sullivan for information in regard to herself and family, she replied: "What business is it of yours whether I have a husband, or how many children I have? Go along wid ye!" And thereupon took the poor census man by the back of the neck, and marched him out of the door. Leaving his book and inkstand on a chair, he went for a policeman, and when he came back he found the book and inkstand thrown out into the hall, and the former covered with ink. He had his redress, however, for the contumacious Mrs. Sullivan was afterward mulcted in the sum of $3 at the Essex Market Police Court.

The *American Medical Weekly*, in entering upon another volume, is certainly to be congratulated on the wonderful success

it has achieved during the first year of its existence. It has become a much-welcomed visitor here, and all its subscribers will readily concede, we believe, that it has steadily increased in value to them from the first.

Faithfully yours, STAR.

PROCEEDINGS OF SOCIETIES.

"Etsi non prosunt singula, juncta juvant."

The Central Kentucky Medical Association.

The Association met at Harrodsburg, Ky., on the 21st of July, 1875, in the Grangers' Hall, at 10 o'clock A. M., the President, Dr. R. W. Dunlap, of Danville, in the chair. Present—Drs. Carpenter, Wm. Huffman, A. G. Huffman, S. L. S. Smith, U. S. A., Meyer, Harlan, A. D. Price, John L. Price, Steele Bailey, McMurtry, C. H. Spilman, Craig, and Erwin.

After a prayer by Dr. Spilman, the debate was opened by Dr. Steele Bailey, of Stanford, the appointed, with a lengthy and an exceedingly well-prepared and exhaustive paper on Bright's disease, the question for the day, arranging the affection into three forms, to-wit:

1. The inflammatory form.
2. The waxy or amyloid form.
3. The cirrhotic, contracting, or gouty form. He gave the morbid anatomy, symptomatology, etiology, etc., etc., very minutely of each stage, together with the manner of testing the urine chemically.

The prognosis of Bright's disease, he said, varies with the force and stage of the disease. Recovery is always possible in the first stage of tubular nephritis; it is also possible in the second stage. The greater proportion of recoveries date from the first rather than from the second stage. Complete recovery is never possible with the amyloid kidney, with cirrhotic kidney, with the atrophied stage of parenchymatous nephritis.

The treatment constituted the most interesting, and at the same time the most difficult part in the consideration of the disease. It is still, he said, un unsettled question. In the first stage of parenchymatous nephritis there are three important things to accomplish by treatment, namely:

1. The elimination of urea.

2. The removal, as rapidly as possible, of the inflammatory products which obstruct the uriniferous tubules.

3. To counteract the effect of urea upon the nervous system.

The first thing to be done is to remove the exudation which obstructs the uriniferous tubules. This exudation not only stops the elimination of urea by preventing the kidneys from performing their normal eliminative function, but if it remains in the tubules, it develops a degenerative inflammation.

In the acute stage, whatever may have been the existing cause, the patient must be kept in bed, in a large, well ventilated apartment, at a temperature of 75° Fahrenheit, and nourished with milk alone. It must be remembered that in consequence of inflammatory action, the blood vessels of the organ are overfilled, while many of the tubules are blocked with altered epithelium and free exudation. These conditions, though most marked during the first stage, continue more or less during the whole course of the disease. The aim, therefore, must be to subdue the inflammation; or if this can not be fully done, to relieve the congestion, and remove from the tubules the effete materials which block them up. If this latter object be attained, the channels for the elimination of water from the body are opened, counter-pressure, which overcomes the blood-pressure in the blood vessels is removed, and opportunity afforded for the growth of new epithelium within the tubules.

Congestion may be diminished by local blood-letting. Blood may be drawn to the extent of from one to ten ounces, according to age and other circumstances.

The most effective means for the removal of the exudation and effete material from tubules are diuretics, of which digitalis ranks first. It increases the power of the heart's action and perhaps the contractile powers of the capillaries. It also materially increases the blood pressure In a healthy state, the normal secretion depends upon there being no obstruction to that pressure. If the secretive power of the kidneys can be so increased that they will pour out fluid in sufficient quantity for the elimination of urea, a result of great importance will be accomplished. It is best given in infusion, half ounce of the English leaves every three hours for twenty four hours, or at least until the specific action of the drug is obtained. It is claimed for this manner of administering digitalis, that the cumulative effects are avoided. The leaves may also be used as a poultice over the kidneys After the free use of digitalis, and the application of cups to the kidneys, if the uræmic symptoms are still urgent, hot air baths, and hydragogue cathartics may be temporarily resorted to. As soon as diuresis is established, the digitalis must be discontinued, and diluent drinks given to keep up the flow. If convulsions threaten, morphine may be injected hypodermically, to control the nervous disturbance.

In the second stage of parenchymatous nephritis, digitalis may be given, to keep up moderate diuresis, and also iron, with the most nutritious diet. The tincture of the sesquichloride of iron is the best, and it may be combined with nitrous ether and digitalis. Should it disagree, the syrup of the iodide, or Parish's Compound Syrup of the Phosphate may be substituted. The secretion of urine must be carefully observed, both as to its quantity and quality, for in this stage, if the patient recover, the recovery must commence before a tubular degenerative process begins, and the indications of recovery will show themselves in six weeks after its commencement.

The appearance of uræmic symptoms requires prompt action. Cupping over the kidneys and active purgation appear most useful where there is a tendency to coma. In cases of a con-

vulsive type, chloroform has proven more beneficial. In the catarrhal and dropsical affections of the respiratory passages, counter-irritation and dry cupping have succeeded well. Mercurials are distinctly contra-indicated. In the third stage of this disease, or as it is commonly called, chronic Bright's disease, the plan of treatment is essentially tonic—iron, cod-liver oil are mainly to be relied on, with milk as the principal article of diet.

In the treatment of amyloid degeneration of the kidneys, little can be done, from the fact, that not one, but many organs are involved. Remedies must be addressed to the constitutional condition on which it depends or with which it is associated, and should consist in supporting and improving the general health. There is no remedy as yet known that will produce a direct effect on the waxy degeneration itself. Diuretics are of little service, the urine being already excessive, and hydragogue cathartics are not required in this form of Bright's disease, on account of the tendency to diarrhœa. If it occur in connection with disease of the bones, or any prolonged suppuration, or as a complication of tuberculosis, or if it depend on syphilis, the removal of the cause would first suggest itself. If this be impossible, then such treatment should be instituted as circumstances call for. The preparations of iron, quinine, nux vomica, vegetable tonics, and the mineral acids should be given perseveringly, the form being varied to suit the case, in connection with the most nutritious diet.

The cirrhotic form of Bright's disease is the most hopeless of cure of all the varieties of the disease. The tendency of this disease is to proceed from bad to worse day by day; more and more of the interstitial tissues of the kidney becomes involved; the tubules become gradually obliterated, as a result of the diminution in the eliminating powers of the kidneys. Little is to be gained by any special plan of treatment. If the disease occur in connection with gout or rheumatism, remedies adapted for these affections will relieve the kidney complica-

tions. Great benefit often results for a time from the use of water from alkaline springs. Iron is not as serviceable here as in the treatment of amyloid or hypertrophied kidney, or in parenchymatous nephritis. Strychnia may be used with advantage. The urine can not be improved. If its quantity become diminished, the temporary use of diuretics may bring good results. If the action of the skin is defective, diaphoretics and baths may be resorted to. If dropsy supervene, it must be treated as explained above, regard being had to the impoverished state of the blood. If uræmic convulsions occur, chloroform may be used. In a certain proportion of cases cod-liver oil, combined with the hypophosphate of soda, will be found of benefit. This class of patients should reside in a warm climate, and all care taken to avoid exposure to cold. Complications, such as pulmonary œdema and the acute inflammations, should be treated on the principles already pointed out, but especial caution must be observed in regard to depletion, mercurials, or other lowering remedies. Should the eyes become affected, all exertion and exposure must be avoided, as well as stooping and straining, which are apt to induce extravasation of blood.

Dr. Wm. Huffman, of Lancaster, said Dr. Bailey had read a very able and comprehensive paper. He had discussed every point in the disease so fully as to leave nothing to be added. In the treatment of acute albuminuria he thought special attention should be directed to the skin, and to increase its activity he knew of no better means than to envelope the patient with a blanket wrung out of hot water, this to be covered with dry blankets. He would rely on quinine and iron, and such diet as would supply the drain of albumen from the system. Many cases of acute albuminuria, he said, recover, and we should not despair of curing the chronic form, as he did not think it hopeless of cure by any means.

Dr. Meyer, of Danville, had never listened with more pleasure to any paper than to the one just read. The author had presented the subject so thoroughly and attractively as to

leave no point untouched in this complex disease. Bright's disease, he said, was first developed in inflammatory action, and in this stage active treatment is well borne. He agreed with Dr. Huffman as to the importance of giving special attention to the skin, and thought the means suggested by him for promoting diaphoresis excellent. The liver should not be neglected. Diuretics he did not think reliable. Digitalis he regarded as the best, but it was far more beneficial as a heart tonic. In the chronic form, sustaining means, tonics, iron, quinine, and, best of all, strychnia, must be relied on, with albuminous food, and morphia hypodermically to allay nervous irritability. He would recommend electricity also, as he had recently met with encouraging success, he said, with it in the treatment of some cases of this disease.

Dr. A. D. Price, of Harrodsburg, had nothing to add to Dr. Bailey's most excellent and exhaustive paper, save to supply an omitted point in the treatment, to-wit: change of climate, with special observance of the laws of hygiene. He had very little faith in diuretics, and while it is important, he said, to keep up the action of the skin, he thought in many instances valuable time was lost in giving too much attention to it, to the neglect of other things more important.

Dr. C. H. Spilman, of Harrodsburg, had seldom listened to a paper with more pleasure than to Dr. Bailey's opening address. It was no less able than beautiful and elegant, and gave unquestionable evidences of a vigorous and cultivated mind. He had covered the ground so completely, and fenced his positions with such care, as to leave little room for comment. He would only refer to one or two difficulties suggested by the discussion, which lie in the way of the doctrines advanced relative to the pathology of the disease. If the kidney, he said, is so crippled that its functions, as a depurator of the blood, is destroyed, and the urine passes simply by a physical process of filtration, it is, he said, unaccountable to him why the albumen, the denser element, which ought to remain in the blood, passes, while the other elements, which

should be thrown off, are retained, and this often when the urine is in excess of the normal amount. Can any member solve this difficulty? he asked. He suspected, he said, that the functions of the kidneys are not destroyed, but perverted; that many of its glomerules and uriniferous tubules are intact, and that it is still capable of performing the *vital* function of secretion. The special irritability, however, with which its secreting vessels are endowed have become so altered, he said, by disease as to change their relations to the blood, and leave them to select from it that which, as faithful sentinels, they would otherwise have excluded. We have many analogies, he said, in the animal economy illustrative of this law. In a healthy stomach, the pylorus permits nothing to pass it but chyme; when diseased, however, crude matter passes, and indigestion results. In like manner the lacteals select with remarkable precision the chyle, and reject all else when in health; but when diseased, admit noxious material. Many other examples, he said, might be presented to show the perverted action of an organ through a modification of the vital powers with which it is endowed. That this solution of the problem is not altogether conjectural, he would point to the succession of phenomena which characterized Bright's disease. All pathologists are agreed in one thing: that when subjected to the proper tests, a highly albuminous urine is one of the first symptoms that can be detected, and that it exists antecedent to any evidences of structural derangements, when perversion of function only can account for it. The history and course of Bright's disease, he said, did not justify us in attributing the nervous affections which spring up during its progress, as headache, convulsions, coma, etc., etc., to uræmic poisoning, for the following reasons: First, these derangements in many cases are entirely absent, though the urine is highly albuminous. Second, the blood, being the creature of the blood-making organs, can never become corrupted save through their perverted action, nor restored to soundness except through their restoration to healthy action. There could,

therefore, be no recovery from these symptoms so long as the cause which produced them remains. But we know, he said, that these nervous phenomena not unfrequently gradually wear off, and the patient enjoys tolerable immunity for a period of uncertain duration, probably to return again.

The œdema which attends parenchymatous nephritis is not confined to the subcutaneous tissue, but attacks successfully the internal viscera. Change of place, a roving tendency, seems to be a distinguishing characteristic of the œdema of Bright's disease. Is it not, therefore, more probable that these nervous symptoms depend upon œdema of the brain, which not unfrequently pass off, leaving the patient in tolerable comfort?

Dr. Harlan, of Danville, thought the albuminous excess in the urine, if formed in the stomach by incomplete digestion, or other gastric derangement, would of necessity pass off by the bowels; if, however, the albumen resulted from a failure of the system to convert the white corpuscles into red, it would be excreted by the kidneys. His experience in the disease has been limited. He had been very much interested in the discussion, and thought the opening paper had expressed fully and thoroughly the advanced views upon the disease.

Dr. McMurtry, of Danville, said that should the discussion fail to bring out the strength of the Association, it could not be attributed to a contracted subject, or to any defect in the paper just read. Our nomenclature in this instance, as in many others, he considered defective, since the term *Bright's disease* includes several distinct morbid processes. It is also used synonymously with *albuminuria*, which is a condition accompanying many diseases, and due to numerous causes. Albuminuria, he said, may be the result of altered dynamics, as in valvular disease of the heart; it may be due to an altered condition of the blood as a fluid, as in diphtheria, and other blood diseases, or it may be caused by an altered condition of the kidneys as eliminative organs. Only in this latter sense could the term be a synonym of Bright's disease.

In this connection he would attempt to answer the query propounded by Dr. Spilman, as to why the albumen could escape from the vessels in the kidneys while the urea was retained. We can not fail, he said, to observe in the function of the kidneys an elective power, by which excrementitious material is distilled from the blood, and nutritious matter is retained in the blood vessels. For these processes to be carried on requires the highest degree of function in the organs. When the kidneys become the seat of organic change, as in Bright's disease, their function is of course impaired, and while failing to extract excrementitious matter from the blood, for the same reason—impaired function—the serum of the blood, rich in albumen, passively exudes from the vessels.

He was gratified, he said, to hear the speaker who first occupied the floor treat so thoroughly of the pathology of the affection under consideration, as upon our comprehension of this depends all rational diagnosis, prognosis, and treatment.

As has already been stated, the acute form of Bright's disease consists simply in inflammation of the lining membrane of the uriniferous tubules. This, he said, is most commonly the result of exposure to cold, and is to be treated on the same principle as inflammation of other mucous surfaces from the same cause, and recovery usually results. The other forms of the disease, the chronic, he considered incurable, and would not attempt to refer to each in detail in the short time at his control. He desired simply to call attention to one or two features in the management of these affections. In treating them the complementary relation of the skin and kidneys should always be borne in mind. Exposure of the surface of the body should be avoided, and every precaution taken to guard against cold. We should also, he said, be on the look out, and guard against pericarditis, pneumonia, and peritonitis. He would also urge the importance of making more frequent examinations of the urine. Any operation whatever is inadmissible in subjects of Bright's disease; and when, from any reason, as prolonged suppuration, we can suspect that organic

change has occurred in the kidney, the urine should be carefully examined before undertaking any operative procedure. This is all the more necessary, he said, from the fact that albuminuria is among the very first indications of such disease, and in many cases has existed for many days before the disease manifests itself otherwise.

Dr. Carpenter, of Stanford, said Dr. Bailey had read an exceedingly interesting and instructive paper. The subject had been presented by him so accurately and minutely as to leave hardly anything for comment. The amyloid kidney is most frequently the result of syphilitic infection, and the cirrhotic kidney of gout and rheumatism. It is impossible, he said, to arrive at an accurate diagnosis of the different stages of the disease without the microscope, and chemical tests for the urine, and it required care and caution in the use of these aids to get positive results. After discussing the pathology of Bright's disease, he alluded to Prof. Loomis's great faith in opium as an antidote to uræmic poisoning, and to Prof. W. H. Thompson's-New York-recommendation of oiling the skin to promote diaphoresis. Digitalis, he thought, should be given for its action on the heart, and indirectly as a diuretic.

Dr. John L. Price, of Harrodsburg, expressed his appreciation of Dr. Bailey's excellent paper, and said he had not had much experience in Bright's disease. In two cases recently, of which he gave the particulars, he had met with happy results from a combination of belladonna with diuretics.

After a few remarks from the President highly complimentary of the opening paper, the debate closed.

Dr. S. L. S. Smith, U. S. A., Chairman of Section on Progress of Materia Medica, Chemistry, and Hygiene, read his report. He regretted, he said, his inability to illustrate his report, as he had expected, with a collection of drugs, chemicals, etc., as they had failed to come to hand owing to some fault of the carrying companies.

Dr. Meyer had used guarana very successfully in sick headache, and thought highly of it as a nerve tonic. Salicylic

acid he regarded as a powerful antiseptic. He had employed it beneficially in a case of gangrene of the lung.

Dr. A. D. Price had given it in a case of sciatica and lumbago with marked success, after opium, electricity, etc., had failed.

Dr. Dunlop remarked that guarana had failed in his hands after repeated trials. Probably, he said, the fault was his. It occurred to him, he said, to mention in this connection the benefit he had derived from carbolic acid in the diarrhœa of children. He generally administered it in glycerine.

Dr. Craig, of Stanford, had given carbolic acid in two cases of chronic dysentery in adults, considering it indicated by the fetid character of the dejections, and was much gratified to see immediate improvement take place, followed by recovery. A variety of other remedies had been tried to no purpose.

Dr. McMurtry said the testimony as to the efficacy of guarana in headache is very conflicting, which he thought was due in a great measure to a want of proper discrimination in its use. It was only applicable, he believed, to that form of headache which results from nervous exhaustion, and would fail in the headache caused by indigestion.

Dr. C. H. Spilman read a report of a case of pudendal hernia. The patient—a primipara—was near full term when she became frightened, and, in consequence, sickened. Subsequently her breasts grew small, soft, and flaccid, with additional indications of the death of the fœtus. Labor came on in about two weeks, which lasted some thirty hours, owing to the rigidity of the os and soft parts, during which he took twenty ounces of blood from her. The child was still-born. After the expulsion of the placenta the patient had a succession of straining, bearing down pains, each accompanied by a convulsive cough. A sudden exclamation from the patient, accompanied by an expression of wild alarm over her face, directed his attention to the vulva, when an examination revealed a firm, elastic tumor in the left labium, as large as a man's fist, which he at once recognized as a pudendal hernia.

All efforts to reduce it having failed, owing to the constant heavy pains, a hypodermic injection of morphia was given, when the reduction was effected, and a T bandage and compress applied. Some unfavorable symptoms set up for a few days after, which were successfully combated, and the patient made a slow but permanent recovery.

Dr. S. L. S. Smith presented a report of a case of strangulated inguinal hernia, with operation, treatment, and recovery:

The patient, aged 51, mother of a large family, was first seen February 2, 1875, in consultation with Dr. Frisbie. The hernia had been noticed some three or more years, but had given little trouble. No truss had been worn. Her health was generally tolerably good. The tumor was located immediately over the right inguinal ring, with its longer axis extending along the course of the inguinal canal toward the labia. It was oval-shaped, and about as large as a goose egg, and of a doughy feel. Gentle taxis effected only partial reduction, and the tumor from this circumstance was diagnosed to be one of entero-epiplocele, with adhesions. As her bowels had moved that morning, and she was comfortable, suffering no pain, it was thought best not to operate then, and she was put upon the use of tonics and cathartics. Four days afterward he was summoned by Dr. Frisbie to see her again, and learned that active cathartics had failed to effect a passage, and that she was unable to retain anything on her stomach, having vomited stercoraceous matter of an exceedingly noisome odor thrice after his arrival—bowels quite tympanitic, pulse feeble, and 100 per minute. She was very much debilitated from continuous vomiting, and complained of some pain about the tumor and umbilicus. An operation offering the only slight hope of relief, chloroform was administered by Dr. Frisbie, and Dr. Smith, after reducing the larger part of the tumor by taxis, made an incision about two and a half inches in length along the axis of the tumor, and dissecting the connective tissue and fasciæ carefully, until the sac was reached,

opened it on a grooved director. There was considerable effusion of bloody serum, with hard clots of blood. The knuckle of intestine involved in stricture was slightly congested, and adherent at several points, which were detached by the finger, and on following the course of the intestine, it was found to protrude from the internal abdominal ring. Poupart's ligament could be plainly felt at the lower portion of the sac, and finding it impossible to enlarge the ring without cutting, the tendinous margin was incised about a quarter of an inch, when the strangulation was removed, and the gut easily returned to the abdominal cavity. The sac was then sponged out, and the external wound closed through the integuments with sutures, leaving an exit for drainage at the most dependent point toward the labia. The wound was then dressed with a compress and cold applications. The patient was under chloroform about half an hour, and she rallied well from the operation. The hæmorrhage was very slight. Opiates, stimulants, and tonics were prescribed. The day after the operation she had three stools, pulse 126, no increase of tenderness over abdomen, and she took food. She went on fairly enough up to the fifth day, except that she was very weak and anæmic, when symptoms of septicæmia set up. Every alternate suture was removed, when a sphacelated point on each side of one stich was discovered, through which a quantity of dark, fetid blood escaped from the interior of the sac. The cold applications and opium were suspended, the wound dressed with carbolic acid lotion, and quinine, milk-punch, etc., etc., ordered. The next day her condition was very grave, she was rapidly sinking from absorption of the poison from the sloughing wound, which had partly healed by first intention at the extremities, thus preventing proper drainage. The slough, which extended almost the entire extent of the incision, was removed, the sac cleansed, and injected freely with carbolic acid, and poultices of flaxseed, sprinkled with charcoal, applied as often as needed. Tinct. ferri chloridi was added to the treatment. She began then to improve, and finally recovered.

Dr. Dunlap read a report of a case of adenia occurring in a man aged 53. He was a cabinet-maker, and originally vigorous, stout, and of good constitution, but addicted periodically, for many years, to the excessive use of alcoholic stimulants. He first presented himself in December last with glandular enlargements of the throat, and under the axillæ. Iodine internally and externally effected no improvement. They continued to enlarge, and the cervical and inguinal glands became involved also. They were never very painful, except from pressure on the surrounding tissue. In February following, all the superficial glands, and the liver and spleen, were enlarged, the abdomen was tympanitic, and there was a tendency to diarrhœa. The symptoms were greatly aggravated soon after by imprudent exposure to cold, and he came near dying from suffocation. He rallied, however, but never regained his strength. From that time until his death, which occurred about the middle of the present month, many and various remedies were resorted to with varying temporary success—nitro-muriatic acid, internally and externally, opium, stimulants, electricity, hypodermic injection of ergotin, and iodine, etc., etc A peculiarity of the patient, whether of cause or effect, was the great difficulty in checking hæmorrhage from a wounded blood vessel.

Dr. Erwin said he could testify to the hæmorrhagic tendency of Dr. Dunlap's patient, as he had found great difficulty in arresting the bleeding from an accidental cut on the arm last January. The injury had been received some three hours before he saw him. Various means were tried, among them the persulphate of iron in solution, and the salt, unavailingly, and it was only checked by prolonged pressure.

Dr. A. D. Price read as an essay his report as chairman of Section on Progress of Surgery, Anatomy, and Surgical Pathology, deferred from the last meeting. This was a lengthy and unusually able review of the advance made in these branches.

Dr. Bailey exhibited Tieman's Modification of Fahnestock's Tonsilotome; Volume III. of Ziemssen's Cyclopædia, and Loomis on Diseases of the Heart, Lungs, and Kidneys.

Dr. McMurtry presented specimen copies of the New Orleans Medical and Surgical Journal, New Series, and a cancerous tumor of the breast, removed from an elderly lady, with recovery.

The Secretary exhibited for the publisher, Henry C. Lea, Philadelphia, a copy of the Obstetrical Journal of Great Britain and Ireland, with an American Supplement by Dr. W. F. Jenks.

Dr. McMurtry brought up the subject of "The McDowell Monumental Fund," in a few appropriate remarks. After some discussion and explanatory remarks, during which extracts were read by Dr. McMurtry and the Secretary from letters received from Dr. James H. Letcher, Chairman of "The McDowell Monumental Fund," at Henderson, Ky., and from Dr. James M. Keller, of Louisville, Secretary and Treasurer of the Committee appointed by the American Medical Association. On motion, two members were appointed by the President from each county to solicit contributions for this fund.

After a vote of thanks to the members from Mercer County for hospitalities, and to the Grangers for the use of their hall, the Association adjourned at 5 P. M., to meet in Stanford, on the third Wednesday in October next, when the debate will be opened by Dr. Wm. Huffman, of Lancaster, on "Headaches, their Causes and Treatment."

GEO. T. ERWIN, M. D.,
Permanent Secretary.

CHEMICAL AND PHARMACEUTICAL.

"Diruit, ædificat, mutat."—HORACE.

The Chemical Fire-fly. By Professor C. W. WRIGHT, Professor of Forensic Medicine and Physiological Chemistry and Pathological Chemistry in the Louisville Medical College; Professor of Chemistry and Toxicology in the Kentucky School of Medicine, etc., etc.

Of all the elements, there is none which presents such a diversity of forms as phosphorus, and not one that presents such a variety of properties which are so apparently contradictory. The number of allotropic forms assumed by this element, and the peculiar part which it plays in the conditions essential to the manifestation of sensation and intelligence, together with the fatal effects which often result from its introduction into the system, give it an interest not exceeded by that of any other form of matter whatever. A distinguished professor of this city, who was in his day a most attractive teacher, maintained that the chief element of success in a lecturer consisted in the power to address the eye, experimentally when possible, and by a well drawn mental image when the subject under discussion did not admit of physical demonstration. In other words, he contended that nothing should be left to the imagination of the student. There can be no doubt that a single, well-selected experiment, skillfully executed, is more instructive than an hour's talk without illustration. Phosphorus may be selected as a means of illustrating the two methods of presenting a subject. Thus, the average text book informs the reader that phosphorus is luminous in the dark, or, in other words, phosphoresces when exposed to the air; and this is about all that is stated in reference to a property of this element, which is the most important of any connected with it. Upon this property, or one closely allied to it, is the poisonous quality of this agent based.

Destroy this power of phosphorescence, and this element is no longer a deadly poison, either when swallowed, or by its action upon the bones of the upper and lower jaw. The phosphorescence of this element is accompanied by the development of ozone, and any substance which has the power of destroying ozone will arrest the luminosity of phosphorus, and, what is of still greater importance, destroy its poisonous action. In fact, phosphorus is not of itself a poison, but the ozone which it has the power of developing out of the oxygen of the air is the sole cause of the fatal results which follow its introduction into the system. This I have repeatedly demonstrated by experiments on the lower animals; and in two cases accidental poisoning in human beings, the same facts have been proven. This is a subject, however, that properly belongs to the medical profession, and I will simply state that ten or fifteen drops of spirits of turpentine, mixed with an ounce or two of sweet oil, or any liquid fat, will prove an efficient antidote to elementary phosphorus, or any substance, such as the tips of matches or certain rat poisons, with which it may be incorporated. Other volatile oils, such as sassafras, may be employed when turpentine is not at hand. It is not every specimen of turpentine that will prove antidotal to phosphorus. Any substance that has the power to instantly destroy the luminosity of this body will prove effectual as an antidote; and the only assurance we have of the efficiency of any agent is to test it beforehand.

Phosphorus is, then, not of itself capable of producing inflammation of any tissues of the body; but ozone, which it has the power of evolving from the oxygen of the air, is the cause of all the local mischief which results from its contact with certain parts of the body. That this body may produce certain general effects when it finds its way into the circulation, we do not doubt, but these are distinct from its local action.

To prepare the chemical fire-fly, by which some of the most characteristic properties of phosphorus can be demonstrated,

select a two-ounce phial which has been well annealed, and introduce into it sweet or almond oil, till the bottom is covered to the depth of half an inch (lard will answer, if nothing better can be procured), and to this add fifteen or twenty grains of phosphorus, and then cork it loosely. After this, place the phial in a pan of cold water, and set it on a stove or other warm surface till the phosphorus melts, then shake the phial till the oil has dissolved as much of it as it is capable of holding in solution. Three or four vigorous shakes in the course of ten minutes will answer. That quantity of oil will not dissolve the whole of the phosphorus, which is not desirable. The cork must not be a closely fitting one, but must be forced into the phial so as to nearly prevent the escape of the oil when inverted. It is best to give the cork more of a conical shape than those in use by druggists. When experimenting, the phial must be warmed about as hot as the hand can bear, and slightly agitated or inverted, taking care, when doing this, to have the cork well secured; it may afterwards be loosened a little. When the cork is properly adjusted, which can be easily accomplished by a little practice, the whole interior will light up every few seconds, in rythmical succession, and continue to do so for hours, provided the proper temperature is maintained. At the conclusion of the experiment, the apparatus should be put away in a dark place, and a tightly fitting cork introduced into the phial. A number of these phials, properly adjusted in a darkened room at different points, and several set swinging by means of strings suspended from the ceiling, produce a singular and weird impression, that grows upon the observer the longer the experiment is observed; and after a time it is difficult to divest oneself of the idea that the light is evolved by a living, moving creature. For impressiveness, there is no experiment in chemistry that makes such an enduring image upon the observer. Of course every precaution should be taken to avoid breaking the apparatus or spilling the oil. No damage, however, need be apprehended provided the directions are strictly followed. In ex-

perimenting with phosphorus, the inexperienced should always be provided with a large vessel of water in which a few drops of turpentine have been diffused. When burning phosphorus has been extinguished by this water, there is little or no danger of its re-ignition, which is very apt to occur when it is extinguished in the ordinary way. The phosphorescence of this element, when a solution of it is spilled upon any object, as well as its disagreeable odor, are instantly destroyed by a small quantity of turpentine suspended in water.

Under no circumstances should children or careless persons be permitted to experiment with phosphorus; not that it is anything like as dangerous as coal oil and many other articles handled daily, but there is no substance that so completely demoralizes the understanding, in case of an accident, as this.

The glow-worm may be imitated by transmitting bubbles of air through glass tubes containing the phosphorized oil. In fact, there is no end to the number and variety of experiments that can be devised by a person of inventive genius.

The phosphorescence of the fire-fly and glow-worm is due to slow combustion or oxydation; and the phenomenon is arrested in them, as it is in phosphorus, by placing them in a negative gas, such as nitrogen, for example. Phosphorescence is not always, however, the result of oxydation. This fact can be demonstrated by exposing the diamond to direct sunlight for a few minutes, and then transferring it to a darkened room, when it will emit a beautiful light for several seconds.

The phosphorescence of the fire-fly is not due to the slow combustion of phosphorus, nor is it an amatory display on the part of that insect. The species are perpetuated under different circumstances, and in the day time. The fire-fly is a carnivorous insect, and the object of the illumination is to attract small insects, which are quickly devoured.

If the ear be placed near the vessel of phosphorized oil at the moment of illumination, a slight hissing noise will be perceived, produced by a sudden rush of air into the phial, in

consequence of the partial exhalation (one-fifth) of the air in the phial, by the abstraction of oxygen, which unites with the phosphorus. This fact is instructive. It demonstrates to us, in a striking manner, that a vessel which may be impervious to a liquid may permit the entrance or exit of a gas or vapor; and it accounts for the decomposition of spirits, conserves, extracts, etc., that are put up in vessels that are supposed to be hermetically sealed, simply because they do not permit of the escape of their liquid contents.

Strychnia Eating.—Dr. Morey, in the *Pacific Medical Journal*, gives the following remarkable account of a strychnia eater in his town: "I first became acquainted with this man in the fall of 1861, and soon learned of his habit of eating strychnia, after a long and continued debauch, and in a condition bordering on delirium tremens. The first time my attention was particularly called to it, he wished me to give him a bottle of strychnia, which I did at night about bedtime. He took the bottle, poured the strychnia into his hand, and threw it into his mouth as carelessly as though it were salt; and, in the course of a half an hour, not feeling the effects from it that he wished, he repeated it, and continued to do so until he became perfectly sober. The quantity required would correspond to the length of time he had been drinking, and the quantity of whisky he had drunk. I was struck with the wonderful effect it had to so completely sober him, and leave his system so entirely free of any nervous disturbance, and without the reddened and bloated appearance of the face, the dull, heavy eyes, and irritable stomach of the drunkard. After a two weeks drunk, with all the appearances of approaching delirium tremens, he got up in the morning with his mind clear, his eyes bright, his skin clear and fair, and with all the appearances of a man in perfect health and vigor, and ate as hearty a breakfast as usual, and went to his work as though he had never taken a drop of whisky in his life. My curiosity being excited at what seemed so unaccountable an occurrence, I began to question him as to when he com-

menced its use, and what induced him to take it, but found him very reticent, and have not to this day ascertained the causes that first led him to its use. All that he will tell is that he commenced its use in 1856. From 1861 to 1867 I saw him very frequently, and almost as often have seen him take the strychnia, until it ceased to be a curiosity, except to study its physiological action. In every instance when he took it, every appearance of dissipation would disappear in a very short time. Whether strychnia is an antidote to alcoholic poison, and *vice versa*, was a study for which I could find no authority to guide my conclusions.

"From 1867 I did not see him until the month of November, 1874, when he came to this place and called on me for strychnia as of old. I told my clerk to give him all he wanted. He gave him a bottle from which he took about twenty grains. In an hour he was all right, and as sober as ever. I have experimented with strychnia and nux vomica as an antitote to the effects of alcohol, and invariably with beneficial results."—*Pharmacal Gazette.*

Arsenic as Antidotal to Acute Alcoholism.—Henry M. Fiske, M. D., of San Francisco, writes: "In the April number of the *Pacific Med. and Surg. Journal*, I find an article by Dr. Morey on the antidotal powers of strychnia in cases of alcoholic poisoning. It called to my mind a case in which arsenic seemed to posess the same power—the case of Dr. C.—a fellow student of mine, whom I had known intimately since the year 1840. He became addicted to the excessive use of alcoholic drinks. He was an able physician, and had, both in Michigan and in this State, an extensive practice, and was well known to many physicians, whose testimony can be had, if needed, to corroborate my statements. He would have an extended spree, varying from one to three weeks in duration. When he wished to sober up at the end, or if, during the paroxysm, he desired for any purpose to be himself again, he would commence and drink one half ounce of Fowler's solu-

tion, repeating the dose in one hour, if necessary, and continue the same dose at the same or shorter intervals till sometimes he had swallowed the enormous quantity of five or six ounces. He would then be apparently as fresh and vigorous as though he had never been intoxicated, from two to five hours being all the time generally necessary to bring him to his normal condition. Often have I been sent for to consult with him and found him unfit for business, when he would retire to a room, call for or take from his saddle-bags his "Fowler," as he called it, and in two or three hours he would be ready for business. As already hinted, many who read this article will remember him, an honorable, intelligent physician, a noble man in every sense of the word, but who acquired the unfortunate habit of using alcoholic stimulants to excess. He finally died of phthisis, and lies buried near one of our flourishing mining villages."

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

"Judex damnatur cum nocens absolvitur."

CYCLOPÆDIA OF THE PRACTICE OF MEDICINE. Edited by DR. H. VON ZIEMSSEN, Professor of Clinical Medicine in Munich, Bavaria. Volume second. Acute Infectious Diseases. By Prof. Thomas, of Leipzig, Dr. Curschmann, of Berlin, Dr. Zuelzer, of Berlin, Prof. Hertz, of Amsterdam, and Prof. von Ziemssen, of Munich. Translated by James C. White, M. D., and Edward Wigglesworth, Jr., of Boston, Mass., Edward W. Schauffler, of Kansas City, and A. Brayton Hall, M. D., J. Howard Emerson, George H. Fox, M. D., Edward Frankel, M. D., and John C. Gray, Jr., of New York. ALBERT H. BUCK, of New York, editor of American edition. New York: William Wood & Co., 27 Great Jones Street. 1875.

The subscribers to this journal have doubtless been for some time expecting a suitable notice of the second volume of this great work, which is not only a monument of original

research and compilation on the part of the European authors, but also a conspicuous credit to the American translators, and the occasion for much commendation, as well as congratulation to be bestowed upon its energetic, liberal, and faithful publishers, Messrs. W. Wood & Co., of New York. Like the first volume, it is devoted to a consideration of the acute infectious diseases, and accordingly there are presented the following diseases by the authors whose names are respectively here appended: Varicella, Measles, Rubeola, and Scarlet Fever, by Prof. Louis Thomas, of Leipzig; Variola and Varioloid, by Dr. Heinrich Curschmann, of Berlin; Erysipelas, Miliary Fever, Dengue, Influenza, and Hay-fever, by Dr. Wilhelm Zuelzer, of Berlin; Malarial Diseases, by Prof. Henry Hertz, of Amsterdam.

Thomas is eminently fitted for the able discharge of his work. At about the meridian of life (37), clerk of the Medical Clinic at Leipzig from 1858 to 1860, Assistant of Clinic at Rostock and Leipzig from 1861 to 1865, Director of the Polyclinic from 1865, and Professor at the Medical School at Leipzig from 1868; a frequent and able writer, and a sound pathologist, few, if any, could be better selected for this task.

Curschmann, somewhat younger, was born in 1846. He has assisted at the Polyclinic at Giessen, physician of the City Hospital at Mayence, and small-pox physician of that city for three years, and since then a prominent practitioner of Berlin; he is eminently fitted to write *ex cathedra* in regard to the diseases which he was commissioned to analyze and present in this volume.

Zuelzer, as "Instructor at the University of Berlin and Director of the Charité," was chosen to write of the diseases entrusted to him for the best reasons; having been for years a conspicuous student at Breslau, Berlin, Vienna, and Paris, he served for many years in the chief hospital (All Saints) at Breslau; he went to Russia to study there in person the relapsing fever epidemic, and investigated the same disease subsequently as it appeared in England. For many years the

chief editor, as well as the founder, of the Weekly Journal of Epidemiology, and a constant writer for the leading journals of Europe, his fitness for the duties assumed are evidently indisputable.

Henry Hertz, the author of the malarial diseases presented in this volume, is a comparatively young man, but distinguished for some years in his profession. His student life was passed at Berlin, Prague, and Vienna. He graduated in 1860; served as assistant to Niemeyer and Ruhle, and was subsequently made assistant at the Pathologico-Anatomical Institute under Grohe. He was called to the chair of Pathology at Amsterdam. His contributions to journals have been frequent and valuable, and his record is in all respects able and admirable.

These facts in regard to these authors are given because the reader naturally desires to know something of the record of those whose teachings he is about to study and appreciate.

In considering the subject of varicella the author denies in toto the views of many that varicella is a mild form of variola. He regards the two diseases as specifically different, with no resemblance but an occasional similarity in the cutaneous phenomena. He considers this distinction very important, because many otherwise fail to understand that after successful vaccinations there are numerous cases of varicella which are regarded as variola, and as evidences of the failure of vaccination. To destroy confidence in vaccination is to aid in spreading variola, hence each physician should take special pains, when varicella succeeds vaccination and simulates variola, to ascertain the facts and explain the apparent obscurity. Many cases of so-called variola after vaccination are only cases of severe varicella. Unvaccinated children who have, or have had, varicella should be as carefully vaccinated as though the varicella had never appeared; for varicella does not prevent variola, nor conversely does variola prevent varicella. They are specific diseases. Umbilication of varicellous pustules does not by any means indicate that

the disease is in any respect variolous in nature. The author declares as his experience that in variola the temperature is much increased during the primary stage, while in varicella it is not increased, or if so, but slightly, and lasting only a few hours in bad cases. He further states that on careful examination one can always detect a nodular formation on the site of the variolous eruptions, whereas there is no such formation in varicella. It seems, then, that the dangerous tendency to regard these two diseases as somewhat identical has received a very clear and satisfactory rebuke. He regards, indeed, the fact of there being specific morbid processes in each and all of the acute exanthems as being only demonstrated in recent times, and that it is only in recent times that true and tenable differences have been established between most of the eruptive fevers. The old "pestilent fever," with its protæan eruptions, was nothing more than the different acute exanthematous diseases, which in former periods the physician was unable to identify and to separate; and the author very well shows that as various eruptive fevers were then termed "pestilent fever," the records of ancient medicine can not be safely investigated for the purpose of establishing important facts in regard to eruptive diseases—an important truth.

In treating of other diseases, such as measles, rubeola, scarlet fever, variola, vaccinia, he lays down useful rules. Some of these are worthy of careful attention. Such are some of the facts common to eruptive diseases, viz: that a feverish condition precedes or accompanies the appearances upon the skin unless in very light cases; that the appearances upon the skin are developed in a definite order and at definite periods; that these diseases, with rare exceptions, attack the same person but once. He divides the exanthems into stages that are pathologically just and convenient for study; the stage of latency or incubation, extending from the period of exposure to the beginning of feverish symptoms; the precursory stage, from the first feverishness to the appearance of the

eruption; the eruptive stage, extending from the period of the first eruption until there is complete florescence; the stage of retrocession, beginning with the maximum development of the eruption, and terminating in the disappearance of all febrile and local symptoms.

The author makes a broad distinction between morbilli and rubeola; he claims that the eruption of rubeola can closely resemble that of measles, but that the points of difference are the indented character of the blotches of measles, the slight papular prominences upon them, the casual confluence upon the face, the more intense and protracted fever at the time of the eruption (while rubeola can run its course without fever), and the more violent symptoms upon the mucous membrane in measles. Many epidemics of "measles in a light form," he claims to have been most probably rubeola epidemics.

His distinctions between measles and roseola are very clear and good—"Measles and roseolar eruptions are distinguished by the partial confluences of the spots in certain regions of the body in measles; by the absence of injection of the palatal and pharyngeal mucous membrane in roseola, and especially by the absence of the concomitant symptoms of measles; by the characteristic course of the fever in measles." He traces rubeola back to the middle of the eighteenth century; regards it as contagious; a specific disease not generally understood, and indeed repudiated by many. This disease, like measles, he describes with great clearness and force.

Scarlet fever epidemics, he asserts, were not seen before the sixteenth century. It is doubtful, however, whether any of the records of that period can be relied upon, as it is well known that even as late as the middle of the seventeenth century Morton endeavored to show that measles and scarlet fever are the same disease; and it was not until Sydenham investigated this disease from 1661 to 1675, that it was clearly admitted that the scarlet fever of England and the scarlatina of the Italians was the same disease, and that scarlet fever (or scarlatina, the two diseases since then being regarded as

identical) was entirely different from measles. In regard to the etiology of scarlet fever the author lays great stress upon its extreme contagiousness; its specific poison; this being "a peculiar substance which is transferable;" the necessity for isolating cases; disinfecting everything in the neighborhood of the poison; the tenacity and volatility of the poison, etc. No one can read this portion of the work without being absolutely astonished that even the most superficial physician could deny the necessity of absolutely isolating scarlatinous cases, and subjecting everything about them to the most rigid disinfection. Indeed, any sanitarian advocating any other course is justly chargeable with ignorance, presumption, or folly; and should be held to a rigid responsibility for all dangers accruing under the false and dangerous advice given by him. The treatment advised is chiefly as follows: isolation, disinfection, thorough ventilation, treating specific symptoms as these arise, inunctions, cold baths or cold sponging in severe cases, affusion with tepid water, mild aperients, etc. The patient should not leave his bed until desquamation is complete. The diaphoretic treatment, so old and loved, he regards as "simply preposterous." The contributions of Thomas to this volume are exceedingly valuable.

Curschmann's brochure on small-pox is highly creditable to him. His analysis of the whole subject is masterly. In regard to its history he states that it is certainly not indigenous in Europe. It reached that country from other lands, no one of which can be alleged to have been its cradle. There is no positive evidence that it existed in Europe at the time of Galen, and the statements frequently made, therefore, that it was treated by Hippocrates and Celsus are incorrect of course. The subject of etiology is presented with rare interest, and this alone would make this article one of the first in value. As to the symptoms, treatment, sequel, etc., there is of course nothing novel, but the whole of these subjects are treated concisely, clearly, and very satisfactorily.

In regard to vaccination, he admits fully that syphilis may

be thus propagated, but claims that this unhappy result is due not to the vaccination necessarily, but to the manner in which it is performed; that is, the vaccinator should be careful that no blood is removed with the vaccine used. In suspicious cases he recommends the use of non-humanized virus, while he denies that this is in any respect superior to the vaccine that has for generations past been humanized. He gives the usual advice in regard to the use of vaccine from the arm of a child, and from no child less than five months old, so that if there be in its constitution any vices, these would then have been developed. He denies that any other disease than syphilis can be propagated by vaccination; the old claim that scrofula and phthisis can be so disseminated he utterly repudiates

In regard to erysipelas, he draws attention to the fact of the familiar division into itiopathic and traumatic erysipelas, and gives a review of the different views that have been held in regard to them. He claims that since the demonstrations of Trousseau no one can justly contend for any specific difference between them; they are all cases of traumatic erysipelas, and never developed except as the result of some existing lesion or injury; "the brief period of invasion, the frequency of relapse, the peculiarity of its starting from some definite point, and its frequently wandering for weeks and even months," make it impossible for any one to regard erysipelas as an acute exanthem. He does not regard phlegmonous inflammations of the skin and cellular tissue as erysipelas. He, of course, fully admits its contagiousness. He regards puerperal erysipelas, so-called, as "nothing specific," believing, with Virchow, that it is the result of icorrhæmia. In regard to treatment, he reviews the various methods adopted: astringents, lime water and oil, blisters, nitrate of silver bands, venæsection, emetics, purgatives, diaphoretics, colchicum, carbolic acid, sulpho-carbolates, turpentine, chloride of iron, alcohol, quinine, baths, etc., etc. He insists upon absolute cleanliness, rest, and isolation; and from the variety of remedies

used he deduces the conclusion that there is no specific remedy. He has much confidence in the local use of turpentine, the subcutaneous injection of carbolic acid, and the internal use of the muriated tincture of iron; the use of quinine in large doses in bad cases, and the application of cold water for reducing the temperature; he uses the cold bath occasionally: sprinkling the affected part with lycopœdium or starch and covering it with wadding. He does not mention glycerine, and this is remarkable, as glycerine and alcohol locally is certainly one of the very best applications; the glycerine disgorges the injected capillaries, and the alcohol by slow evaporation renders the part cool and less painful.

Of dengue fever the author has little to say; he regards it as an acute disease, mostly occurring as an epidemic in hot climates, seldom sporadic, often relapsing, and accompanied by desquamation in convalescence. He declines to offer an opinion as to its contagiousness, though he states that many claim for it an unquestioned contagium which is transportable. He directs attention to the fact that it often precedes yellow fever. The negro seems to enjoy an immunity from its attacks. The mortality in Europe is very slight indeed, as it is in this country. Quinine given every three or four hours in three to five grain doses shortens the disease, and used as a prophylactic is often successful. He states that in Europe the disease is isolated, and even quarantined.

Influenza, or grippe, the author regards as an epidemic "catarrh of the respiratory, and generally also of the digestive organs." He traces it back to the sixteenth century. Every one is predisposed to it; it has no connection with atmospheric conditions; its exciting causes are not known; its contagiousness he does not deny, but regards as improbable.

Of hay fever, the author states, on the authority of Phœbus and Blackey, that the disease "only attacks individuals under forty years of age; up to that, no age escapes." The disease is exclusively confined to certain individuals who are, or seem to be, predisposed to it, and among these it "appears year in

and year out, often under the most different external conditions." The male is far more predisposed to it. "The patients belong exclusively to the educated classes." The exciting causes, "the influence of the seasons and the blossoming period of many grasses." It "occurs only in summer and mid-summer, and sometimes in the latter part of the summer." "The pollen of the *lolium italicum* upon the mucous membrane of the nose will produce it." The pollen grains are more numerous in high elevations. Rainy weather reduces the quantity; so do cities. Rest diminishes the violence of the symptoms of the fever; exercise increases it. The attacks are milder in doors. "Treatment is still powerless." The air of Scotland, in Europe, and of Fire Island (near Long Island), in America, where no meadows bloom, seems to give immunity and relief. The Helmholtz treatment, injection of the nares with quinine, has failed. Patients had best dwell in cities and avoid the country at such seasons. Poor comfort, but interesting facts.

The contribution on malarial diseases is very valuable, and evinces much labor and care. In speaking of the cause of these diseases, Hertz describes their geographical distribution. There are in this connection some amusing errors; he says that in England malaria is encountered but rarely; and in North America, that malarial diseases are rare in the middle States, and in the Northern States probably unknown.

He gives many remarkable facts in regard to malaria; that in the swamps of Australia, with all of the so-called factors of malaria abundant, malarial diseases are not seen; so of the swamp lands, bogs, lakes, and fens around the City of Mexico, with very many similar examples. Again, he claims that where there is no moisture, but little vegetation, and no exalted heat, malarial diseases are rife; they prevail on the dry soil of the Tuscan Appenines, 1,100 feet above the sea; on the rocky Pyrenees, 5,000 feet above the sea; on the island of Ceylon, 6,500 feet above the sea; on the mountains of Peru, 10,000 feet above the sea level. These are hard nuts

to be cracked by those savans who think that they only know everything of malaria, and the rest of the profession nothing. No one can read this work without meeting abundant facts to disprove the current views in regard to malaria. The truth is that no one knows definitely anything positively or uniformly true in this connection, and while inflated and dogmatic praters deafen all around them by speaking of malaria, the fact is, that it is all *vox et preterea nihil*, a mere gaseous bombardment of audiences with worn-out human artillery, incapable of doing either good or harm. The problem of malaria is not even fractionally solved, and those who write or speak *ad nauseam* in regard to it should learn this fact and these relations to it. The whole of this article of Hertz will be read with interest and profit by all.

The volume is closed with an article on cerebro-spinal meningitis, by Ziemssen. He is unable to trace the disease further back than the commencement of this century. This is a serious error for one so accomplished to make; there was an epidemic of it in France in 1310, and again in 1503; in Silesia it was very fatal in 1553; it appeared in Rome in 1580, and destroyed ten thousand; in the same year it killed twelve thousand in Madrid. Sydenham reports it in 1661. It appeared in Lyle in 1778. It has often appeared in this country and in Europe prior to the date announced by Ziemssen. His blunder here is remarkable. He is unwilling to express any opinion as to its being contagious or not. Most authors and observers admit that it is not contagious. The author regards it as being due chiefly to errors of hygiene; many cases may arise from this cause, but it is notorious that it prevails in the most salubrious airs and atmospheres; in snow-covered fields, and on bald mountain tops. Here, again, the author is very unsatisfactory.

In other respects the article is well presented. He denies that there is usually a prodromal stage, and claims that the disease invades suddenly. He recognizes fully the fulminant form, the *méningite foudroyante* of the French. He states that

he has seen many cases of what he terms meningitis cerebro-spinalis abortiva, when the disease invades suddenly and departs abruptly. He gives two other forms of the disease, the meningitis epidemica intermittens, appearing in quotidian and quartan form, and the typhoid epidemic meningitis or meningitis passing into the typhoid condition.

He gives as the lesions of the disease nothing different from those usually described. His views in regard to treatment are as unsatisfactory as those of all writers; tentative, experimental, ineffectual. He values morphine above all other drugs in the treatment of the disease. No one is more unsatisfactory in his testimony as to the therapeutic resources of the profession in this disease; venæsection, cupping, cold applications, mercury, quinine, narcotics, etc., are all reviewed and all regarded as only palliative. He gives the usual percentage of mortality in mild epidemics at thirty per cent.; in grave, seventy per cent.; average, over forty per cent. A message from Europe as unsatisfactory as any given in this country.

Of course this is a most valuable volume indeed, and the best library would be insufficient to furnish the facts embodied.

The error of authors, editors, and translators is that they are either ignorant of American medical literature, or what is worse, inexcusably regardless of it; a serious blunder, which robs this enclycopædia of very much of its value.

Pharmaceutical Epitome for Use of Physicians. By Wm. R. Warner & Co., Philadelphia, Pa. London, 20 Charterhouse Square.

This handsomely and concisely prepared pamphlet will be generally useful to physicians. Its contents are as follows: Preparations of phosphorus; complete list officinal of soluble sugar coated pills and granules, giving the formula for each kind; formula for unofficinal pills; complete list of the best fluid extracts, with dose and price of each; complete list of elixirs and the different lacto-phosphate prepara-

tions; preparations of guarana; list of medicated lozenges; a list of all the important remedies in general use, with medical properties and doses. Lastly, there is furnished much useful information in regard to saddle-bags, medicine chests, etc., with full descriptions of all forms of elastic abdominal belts, stockings etc., etc.

This little work embodies a vast deal of information in a suprisingly limited space. Physicians who compound their own medicines will find it very useful and valuable, and those who have their prescriptions compounded by others will find it a welcome guide. It is issued by one of the best Pharmaceutical houses in this country; a house which has honestly and laboriously won a most excellent reputation.

MISCELLANEOUS.

"Non omnes eadem mirantur ament que."

An Advance in Dental Surgery.—Before "The American Academy of Dental Surgery," held on Thursday evening, June 10, 1875, George H. Perine, D. D. S., of New York, made some interesting remarks on the use of the galvano-cautery for oral surgery, which were followed by illustration.

Dr. Perine claims to be the first person who has applied that particular cautery in dental surgery. He has found no agent so available and so efficacious in certain dental operations as the galvano-cautery, and strongly recommends its use to the profession at large. The battery employed by Dr. Perine is one of great power, and is regulated to suit the operation. The advantages claimed are that it does not affect the body in any degree unpleasantly, because the electric action is absolutely confined to the parts in contact with the blade or broach, the application of which is painless, and so instantaneous that no other known agent can compare with it; the application of it is easy and simple, and free from shock and hæmorrhage

(a desideratum of great moment), and finally, the separation process is rapid. Dr. Perine not only reasons warmly on this subject, so important, but he believes that the use of this particular cautery in dental surgery will become universal, for the extension of which he cheerfully imparts to his professional brethren his knowledge and experience.—*Med. Record.*

A Large Mouth.—Dr. Pixton, dentist, of Lancaster, has the impression of the mouth of a colored woman, taken by Dr. Robinson, of Rome, New York. The jaw is three inches from front to back, and three inches across, constituting the largest human mouth known to the dental profession in this country. The ordinary mouth is only $1\frac{1}{2}$ by 2 inches.—*Medical and Surgical Journal.*

Sex in Industry; A Plea for the Working Girl. By Azel Ames, Jr., M. D., Boston: J. R. Osgood & Co., 1875; pp. 158. The interest awakened in behalf of the female population and their relations to the various modes of education, by Dr. Clarke, has developed itself in various ways. Taking Dr. Clarke's "Sex in education" as his model, Dr. Ames has endeavored to make a similar plea for the female sex compelled to follow the various industrial pursuits.

In education the question propounded by Dr. Clarke, is not *shall* woman learn the alphabet, but *how* shall she learn it, and in view of the same physiological facts Dr. Ames asks, what shall woman do and what not do, and how shall she least harmfully do that which she may undertake. More than ten per cent. of the working women of the United States are under fifteen years of age. These in the aggregate are something over 191,000 as shown by the United States Census of 1870. Dr. Ames says that the condition of these females is far worse than that of the student, for the reason that the method of study has only to be changed to produce the desired reform, while with the operative in any branch it often happens that the character of work as well as the method is wrong.

Of the large number of girl-workers under fifteen, it is highly probable that a large per cent. have not established their menstrual periods. Dr. Clarke, in speaking of this subject, says: A careless management of this function at any period of life during its existence, is apt to be followed by consequences that may be serious; but a neglect of it during the epoch of development, that is, from the age of fourteen to eighteen or twenty, not only produces great evil at the time of neglect, but leaves a large legacy of evil to the future." In pointing out the evil effects of constrained position, muscular effort and brain work, the same author says that the female operative suffers less from these influences than the student for the reasons: 1st. The female operative as a rule has passed through the critical epoch of a woman's life. 2d. She has less brain work than the student.

In answer to the first of the statements, Dr. Ames quotes the statistics given above. It is also obvious that in the intricacy of the modern machinery employed and the many mental processes demanded in certain employments, a large share of brain work is required, less, doubtless in the aggregate than put forth by the student, but still of considerable importance. "Again," Dr. Ames says, "there are conditions connected with the acts of cerebration in the operative that in and of themselves are potent for evil; as, the monotony, depression, bodily fatigue, and 'constrained position,' few of which find their counterparts in ordinary student toil."

Dr. Beard says: "Brain-workers live under better sanitary conditions than muscle-workers. Brain-workers can adapt their labor to their moods and hours, and periods of greatest capacity, better than muscle-workers." Death rate tables of the three classes, gentry, tradesmen, and operatives, give surprising results against the operatives, both in longevity and youthful deaths.

The loss to the State by the sickness or death of the operative is a direct loss of income. "If by indiscretion of educational methods the young female sacrifices life or health,

the loss, though great, is but that, so far as the State is concerned, of an unproductive unit." With the working girl the Commonwealth loses her labor, and herself as a unit in the maintenance of society. The student may have given promise of a life of usefulness, the worker has already begun it.

The author gives a tabular view of the loss, first to the individual, and then the State, produced by any form of occupation which hinders female health and development. The errors of employment that produce these results are first, the early age at which girls are put to work; second, working them too many hours at regular and prolonged tasks; third, their employment at tasks which can not be undertaken without injury, except by fully developed women; fourth, allowing no rest when their physical conditions demand it, *i. e.* during the menstrual period.

The employment of girls and young women is shown to be of too great duration, and requiring too close attention, and frequently attended by bad hygienic surroundings.

The writer glances at the more important and ordinary occupations in which females are employed, and gives numerous illustrations of the bad results arising from the employment of young females. He says that there are but two ways in which evils of this nature are to be met. "They are the diffusion of sound intelligence bearing thereon, and the enactment and enforcement of efficient repressing laws."

A few suggestions as to further enactments in this regard, and remarks upon the position of the working woman, close a volume, which though small, is full of suggestive material, presented in an admirable manner.—*Buffalo Med. and Surg. Jour.*

The Local Use of Chloral Hydrate.—Dr. Charles A. Peabody, House Suageon to the City Hospital, at Worcester, Massachusetts, makes the following report of his experience with the local use of chloral. (*Canada Medical Record*, May, 1875):

I began to use chloral externally about ten months ago in dispensary practice, experimentally. In this I was associated with Dr. E. Warner, also of the dispensary staff.

It was first tried in a 5 grain solution, on a small unhealthy ulcer of the leg, with most gratifying result; the dirty unhealthy surface of the sore became clean, healthy granulations sprang up, and the ulcer was soon healed.

After this many ulcers of this kind were treated in this way, and with uniform success, they beginning at once to assume a healthy aspect and soon healing. It was found advisable, however, usually to reduce the strength of the solution to 3 grs. to the ounce of water, after the first two or three days, as it seemed to be then too stimulating.

Encouraged by this success we began to extend its use to chronic eczema, one very aggravated case of which I have in mind, which was at once much relieved, and within two weeks almost entirely cured. In this case a three grain solution was used from the first, and no other application whatever was allowed.

I have also found it to be, in varying strength, a most excellent application in cases of offensive perspiration and offensive discharge. It has not the powerful and persistent odor of carbolic acid, and is in many cases to be preferred.

In hospital practice the chloral wash has not disappointed my expectations. I have in mind two cases where its good effects were very marked. The first case was an amputation of the thigh, performed for disease of the limb. The wound was dressed with carbolic acid; the flaps did not unite at all, but the cut surfaces assumed, after a few days, an unhealthy look, and became covered with patches of membranous character. Chloral, 4 grs. to the ounce, was applied, and the very next day all the membranous patches had disappeared, the wound began to look healthy, and granulations were seen springing up over nearly all its surface.

The other case is in hospital now: the foot was amputated through the metatarsal bones for railroad injury. The healing process progressed slowly for a while, and then seemed to come to a stand-still, and for two weeks no progress whatever could be detected, but the surface of the wound assumed a

dirty, unhealthy appearance. Then a 5 gr. chloral wash was applied with immediate good effect. The next day the wound looked healthy, and the process of repair seems now, after three days' use of the chloral, to be fairly started into activity.

Thus, I have briefly indicated the results upon which I base my very favorable opinion of chloral as an external application. Of course, if used indiscriminately and unskillfully, it may disappoint, but it has its place, and if intelligently and judiciously used will not fail, I think, of giving very general satisfaction.

There are a few points worthy of notice in which chloral in solution compares favorably with carbolic acid; these are as follows:

1. It does not have the unpleasant smell of carbolic acid, while it is yet a very excellent deodorizer and antiseptic; it will even, in great measure, deodorize carbolic acid itself.

2. It is much neater and cleaner dressing than the carbolized oil which is so frequently used.

3. It does not stain or rather fix stains, as carbolic acid does; an important consideration where sheets, etc., are of any value.

4. It does not "kill granulations" as carbolic acid does, but stimulates them.—*Monthly Abstract Med. Sciences.*

MEDICAL NEWS.

"Nulla dies sine linea."

The index for volumes 19 and 20 will be bound in the December number of this Journal.

Special Notice.—As the first decennial period of this Journal expires with the issue of the December number, there will be published a Decennial Index. This will be a complete index for all the numbers of the Journal issued from January, 1866, to January, 1876. There will be given a thoroughly accurate list of all the subjects mentioned in each and all of the departments of every number published in the past ten years; and there will be furnished also a list of all of the authors whose names, as connected either with original or se-

lected matter, have appeared in this Journal during the period mentioned. With this double index, any article, however short or long, can immediately be found, if one either recollects the name of the author or the subject sought. As the Journal, since it was first issued, has been a fair reflex of medical literature, one with this index can at once learn the contributions of all prominent authors in the past ten years; or if any subject is to be investigated, one can turn to it in the index, and see also the names of all who have contributed to it, with the pages on which their contributions are to be found.

In other words, with this index, it will be easy to see the names of all who have been contributors to any subject during the past ten years; or if one desires to see what any writer has contributed during the period named, he has only to turn to his name in the index and see the list of the articles and works that he has contributed.

The volume will be a large octavo of at least 150 pages. The price of it will, for the convenience of all, be placed at the small sum of 50 cents. It will be very useful to all subscribers, as the numbers containing any article desired can easily be procured. The work will be sold only by subscription. Those desiring it will please send their names. The money can be sent by letter at that time, or when the volume is ready for mailing, which will be very soon. As it is desirable to know how many copies to publish, all who desire to be supplied will, it is hoped, send their orders at once.

Joint Meeting of Medical Societies—The District and County Medical Societies of the Wabash, Ohio, and White River Valleys will meet in Vincennes October 26, 1875, at 7½ o'clock P. M., and will continue in session until Thursday evening, October 28th.

Programme.—Address by the President, William Massie, M. D., Grandview, Ill.

Address on Practice of Medicine—J. B. Armstrong, M. D., Terre Haute, Indiana.

Address on Surgery—W. J. Bray, M. D., Evansville, Ind.

Address on Obstetrics—G. B. Walker, M. D., Evansville, Ind.

Address on Chemical Toxicology—Prof. C. W. Wright, M. D., Vincennes.

Address on Materia Medica—H. H. Chase, M. D., Salem, Ind.

Papers.—Microscopy (with instruments)—J. Gardner, M. D., Bedford, Ind.

Gynæcology—J. L. W. Yost, M. D., Mitchell, Ind.

Medical Associations—J. H. Letcher, M. D., Henderson, Ky.

Hydrothorax—W. H. Roberts, M. D., Terre Haute.

Spinal Fever—B. F. Swafford, M. D., Terre Haute; Ezra Read, M. D., Terre Haute; L. J. Willien, M. D., Terre Haute; E. D. Laughlin, M. D., Orleans, Ind.; G. G. Barton, M. D., Washington, Ind; J. W. Thompson, M. D., Paducah, Ky.

Case Reports—Drs. Rafferty, Hays, Ben. Newland, W. C. Smydth, Stilwell, Tenbrook, McKown, Kemper, and others, who may have instructive cases Volunteer papers solicited.

Committee of Arrangements.—F. W. Beard, M. D., Vincennes; A. J. Thomas, M. D., Vincennes; H. M. Smith, M. D., Vincennes; J. W. Compton, M. D., Evansville; ———Owen, M. D., Evansville; B. F. Swafford, M. D., Terre Haute; T. J. Willien, M. D, Terre Haute; ——— Marshall, M. D., Olney, Ill.; J. H. Letcher, M. D., Henderson, Ky.; S. E. Munsford, M. D., Princeton, Ind.; G. W. Burton, M. D., Mitchell, Ind.

All regular physicians are invited.

EDITORIAL.

"Nullius addictus jurare in verba magistri."—HORACE.

THE BRITISH MEDICAL ASSOCIATION.—The late meeting of this great Body of physicians at Edinburgh in August is worthy of careful attention. Socially, the meeting was a great success. Indeed, it was the most successful as well as the most profitable and pleasing gathering of this distinguished Body.

The address by Professor Christison on the opening of the meeting was devoted to a consideration of the history of the great Edinburgh University. While many would regard this act as in bad taste, for it was, of course, an elaborate eulogy of the university, there is no difference of opinion as to the historical interest and value of the production.

The address on Medicine, by Dr. Begbie was indeed remarkable. He commenced by repeating Hamilton's famous question, "Has Medicine advanced as a practice since the days of Hippocrates?" and while he certainly placed upon record a brief account of many of the additions made by discoveries in Materia Medica, chemistry, the microscope, etc., he left an unjust impression upon the minds of his hearers and of the profession at large; this impression being in deduction, if not in language, that while many additions have been made from various sources, the practice of medicine is now, as in ancient times, chiefly conducted upon the basis of observation and experience. That much of the physician's clinical work is to-day thus based it can not be denied; but it is

evident to the most superficial tyro, that a large portion of the modern practice of medicine is the result of immediate and direct instrumental analysis and scientific investigation. With the exception of a few diseases, in the treatment of which the modern physician (in common with the ancient physician) prescribes, without there being any logical relation between the morbid condition and the medicines given for its removal, every enlightened medical man must know that while in the era of Hippocrates, and for centuries afterward, the medical man based all of his prescriptions upon empiricism, the modern physician relies largely upon reason and science as his guide; and knowing accurately the actual pathology of disease, prescribes not empirically, but gives those agents which experimental physiology has demonstrated to be capable of influencing the morbid processes from which the patient seeks relief. As a whole, then, Dr. Beghie's address, however learned and judiciously compiled, can not be regarded as just to the tenable claims of modern medicine.

The address on Surgery, by Dr. James Spence, was in many respects excellent. Its scope was, however, too limited. The most valuable portions of it were addressed to a defense and analysis of the operation of tracheotomy. He stated a singular and important fact, that while in early life opposed to this operation, he had been converted against his will, and in consulting his case-book found that in his operations for the relief of croup and diphtheria he had operated over one hundred times, with a percentage of one-third recoveries. He describes with much power in this connection the differences between croup and diphtheria, and expresses great surprise that any one can possibly regard them as resembling each other. How it is possible to regard them as identical, he is utterly unable to understand. His address was practical and instructive.

The address on Physiology, by Dr. Rutherford, was considered the great address of the week. As a defense of vivisections, it is unanswerable. His experiments for the purpose of discovering the comparative merits of cholagogues were

very completely detailed, and the results furnished. They are not specially different from those given by Murchison. He places mercury low on the list, a position which some present were not disposed to accept.

Professor Lister's address was much admired, and will become of course one of the classic papers on the antiseptic method.

The absence of Dr. Bennett was universally regretted. The celebration of placing his statue in position was much admired, and created just enthusiasm. All will regret that this bold writer, independent thinker, vigorous orator, distinguished pathologist and practitioner was too feeble to be present on this historic occasion.

The Association meets next year at Brighton, and is yearly increasing in size and influence. At this meeting is to be declared the vote of all members (taken in the interim by letter) on the woman question. How will this decision affect the matter? No one can doubt it will be almost tantamount to an English plebiscite, and will largely influence the decision of this question in America. There was a time, when in this country British opinion would have been immediately met by palpable and direct antagonism; but that day has happily passed. The lion does not now lie down with the lamb exactly, because the American people are not "sheepish" in their national insignia or in any other respect, but the eagle and himself are now the best of friends, and whatever be their past or future differences, they are both too gallant to have any quarrels or differences about the object of their mutual admiration—woman. If the vote is to be taken, the national gallantry of Europe and America will give woman on this question more than justice. What is the gallantry of the British Medical Association? Time will soon decide.

Delay.—The unusual size of this number has delayed its issue.

RICHMOND AND LOUISVILLE

MEDICAL JOURNAL.

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ORIGINAL COMMUNICATIONS.

"Qui docet discit."

ART. I.—CARBOLIC ACID ; ITS CAUSTIC AND ANÆSTHETIC EFFECTS, WITH A CASE ILLUSTRATING THE FORMER. (With a Wood-cut.) By WM. H. DOUGHTY, M. D., Professor of Materia Medica and Therapeutics in the Medical College of Georgia, Augusta, Ga. [Read before the Augusta Library and Medical Society, January 29, 1875.]

Within a few years this comparatively new agent has risen from the ranks of a subordinate article of the materia medica to one of the first magnitude. Certainly no medicine, new or old, has been more experimentally, scientifically, and even passionately discussed within the same period, and, it may safely be assumed, none has emerged from such a trial of merit with a higher assignment of fixed value as a therapeutical agent. As an antiseptic, it has added another laurel to the conservatism of the present era in surgery in the attempt, more or less successful, to anticipate (by exclusion) those external conditions known to promote an unhealthy state of wounds and surgical injuries. Indeed, in this bearing, it has well nigh established a distinctive "antiseptic surgery," comprehensive in its details, scientific in its foundations, and practical in its results. In its power to limit, if not prevent, suppuration, now freely accorded to it by most surgeons, its antiseptic uses are, moreover, greatly enhanced.

As a destroyer of the lower forms of vegetable and animal life, it is without a peer, thus assuming the utmost importance to the hygienist, etiologist, and practitioner of medicine at large. The addition of "an exceedingly minute proportion of carbolic acid in water" containing any of the forms of infusorial life causes their immediate destruction; and, according to Dr. Calvert's experiments, the presence of one-thousandth part of it in an albuminous solution held for decomposition, permanently prevents the appearance of the fungi, vibrios, etc., as well as "putrid odors in albumen kept at 80°."*

Besides other properties not so well known, there has been assigned to it those of a caustic and local anæsthetic, the precise limits of which it is difficult clearly to draw. Its escharotic powers can not be denied in the face of numerons demonstrations, particularly that furnished in the accompanying wood-cut. It is, nevertheless, peculiar in this action, preserving, as it were, by a process of mummification, the dead part from real decay or early decomposition. Unlike every other escharotic in this particular, the loss of sensation in and about the affected part, is also worthy of mention. At a point short of this anæsthesia of death, a simple loss of sensation compatible with the due nutrition of the part, and without prejudice to incisions made therein, is produced, which, if once clearly determined, would serve to confer upon it as an anæsthetic a position among others of this class no less peculiar and destructive. Other caustics become *irritants* under dilution; this becomes an anodyne and allayer of irritation. Where the one merges into the other, or rather how to restrict the strong acid by dilution or otherwise to a local anæsthetic effect of practical avail, is a question of great moment. For the elucidation of this point, we propose to examine anew the claims of carbolic acid as an anæsthetic. After reciting the details of the following case illustrative of its escharotic power, we shall discuss the question as follows:

1. What evidence is given of its anæsthetic properties?

* Wood's Materia Medica, Therapeutics, and Toxicology, 1874, p. 551.

2. If established, how may they be obtained to the avoidance of its caustic effects?

On the 10th of October last, I was consulted by Mrs. ——, of this city, about a tender spot of several months' standing on the point of the index finger of the right hand, which greatly impaired its usefulness; although very trifling in appearance, it was exceedingly sensitive to the touth. On close examination, there was apparent a fissured, cracked condition of the skin, with a hypertrophied elongation of the papillæ, resembling the prolific granulations often seen on ulcerated surfaces.

I directed the local application of carbolic acid, with a view to its combined caustic and anæsthetic effect. Instead of confining the application to the diseased spot, the patient enveloped the distal phalanx with a cloth, and inverting the open vial, saturated this, which was left in position during the night. It was not painful enough to prevent sleep or to arrest the attention of the patient. Next morning, however, it was numb, tight, but not swollen, glazed in appearance, and void of sensibility. Viewing it at this time, it was singular to observe this whitened, glazed appearance, glide into a dark, smooth, dry, desiccated, and board-like condition, absolutely without sensation, and so hard as to sound like a foreign body when struck against a chair or other hard substance. The vitality of the part had been lost (precisely as when arterial thrombosis entails dry mortification of the toes), and that *without inflammation or vesication*, the cuticle being undisturbed in its close connection with the cutis vera; moreover, there was no visible surrounding inflammation. Intensely interested in this peculiar effect of a caustic, I advised that nothing should be done, save to protect it from injury by a loose wrapping.

Early in November I saw it again, and there was plainly visible above the discolored joint a redness and tumefaction which indicated that Nature was instituting a process for the separation of the now foreign and useless portion; no change, however, in the mummified part.

On the 14th of November it was photographed, when the

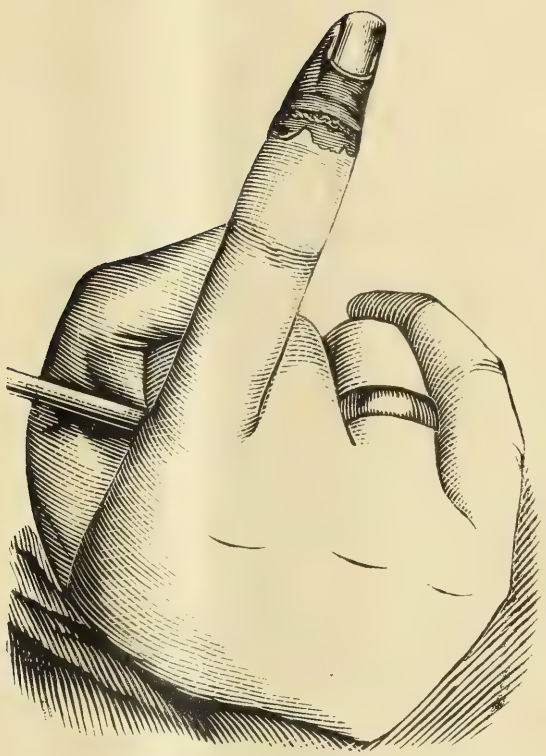
line of demarcation (as seen in the wood-cut) was well defined, and loosening of the superficial structures quite apparent; the livid condition is also reflected.

At this date (26th January) the process of separation of the soft parts is complete, and I am urging removal by amputation. Although nearly three months have elapsed, the end of the finger still presents its former characteristics. There are the elevated edges of the original fissured spot, and, on close examination, a faithful delineation of the papillary ridges, with their interspaces, on the surface of the finger still preserved. Verily, the penetration of the carbolic acid has wonderfully preserved the integrity of the dead parts, enabling them to resist putrefaction and decay. No odor of decomposition is perceived, although, of course, suppuration exists between the living and dead parts.

The effect in this case establishes the correctness of the experiments of Dr. Isidor Neuman, of Vienna, as far back as 1867,* upon the lower animals. Having injected hypodermically into the ears of a small dog a solution of carbolic acid (1 to 4 of alcohol). After the first effects of the caustic, he says, "the subsequent changes were those of mummification, and an eschar formed of destroyed tissues was thrown off. On microscopical examination of a section of the eschar, the most remarkable point was the transparency of all the tissues. It was similar to that resulting from the action of acetic acid, but without swelling. The cartilage cells were found unchanged; the corium was filled with numerous collections of nuclei."

The following summary of evidence as to its power to produce local insensibility of the parts to which it is applied, amount to a demonstration. Dr. Neuman, to whom we have already referred, in 1867 treated lupus in a child, four and a half years of age, by the application of "dilute carbolic acid (one drachm to an ounce and a half of alcohol), morning and evening, for nine weeks, *without giving any pain to the child.*" This is, perhaps, the nucleus of the discovery of its anæsthetic

* Ranking's Abstract, vol. xlvi., 1868, p. 116.



power; although with Dr. Neuman the therapeutic result—viz., the cure of lupus, seemed to have caused him to overlook the possible possession of any distinct property of this kind.

About the year 1870, Dr. John McDowell, Demonstrator of Anatomy in the St. Louis Medical College, according to a writer in the "St. Louis Medical Archives" (see "Richmond and Louisville Medical Journal," vol. xiii., p. 329) called attention of the St. Louis Medical Society to a "marked anæsthesia of some duration he had observed in his hands following their immersion in a mixture containing carbolic acid. His conclusions are worthy of reproduction:

1. Carbolic acid, when concentrated, is a powerful caustic, the action of which is not confined to the spot at which it is applied, hence its deep penetration into the skin.

2. After intense action of the acid, *the individual tissue elements can still be distinctly recognized in the eschar.*

3. *The action of carbolic acid upon the tissues results rather in a mummification than in destruction.*

So much for its caustic action. Let us next inquire, "*What evidence is given of its anæsthetic properties?*"

As an anæsthetic, carbolic acid comes very well accredited, although it has not been availed of by physicians to a degree commensurate with its real merits; a fact ascribable, perhaps, as well to an imperfect or uncertain mode of application, as to the fear of its caustic properties, which he was preparing for the preservation of subjects for anatomical dissection."

The first promulgation of its anæsthetic virtues was, however, by Mr. Erasmus Wilson, Professor of Dermatology in the Royal College of Surgeons, London, who, in June, 1870, published an account of its painless use, as it were, accidentally discovered, in a case of immensely hypertrophied elongation of the papillæ of the glans penis, as a preparation for potassa fusa. He says, although its anæsthetic property was "not altogether new to me, I had never before seen its power so strikingly manifested. I have used it often since, and always with the most satisfactory result; and I employ it at present, very commonly,

previously to the application of caustic to lupus and epithelium. It benumbs the surface, it dulls the excessive sensibility of superficial nerves, and it thereby permits the caustic action of our remedies, with a great reduction in the amount of pain. It admits, I have no doubt, of more extensive application, and will, I have reason to believe, come into general use for a similar purpose."—(Ranking's Abstract, vol. lii., pp. 93 and 94. 1871.)

He used the undiluted acid, and evidently had no settled convictions at the time, for he states, that having suggested that "he (the patient) should touch the raw surface with carbolic acid, he shrunk from its proposal, *having on several occasions used it before and found it very painful.*" He seems to have been as much gratified as the patient, that it could be done on this occasion "without suffering," whereupon, after repeated applications, with the production of a white film of "considerable thickness," the potential caustic was used with "*perfect freedom, almost without inconvenience.*"

This is positive evidence, but its rapid following by a more powerful caustic, potassa fusa, whose action is marked by rapid destruction of tissue, gave no opportunity for separating or distinguishing a purely caustic effect, peculiar to itself, from its anæsthetic power unmodified.

Again, in the October number of the "American Journal of the Medical Sciences," p. 573, Surgeon J. H. Bill, U. S. Army, published an article "On the Application of Carbolic Acid as a Local Anæsthetic in Surgical Operations." To him belongs, at least, the credit of having developed and established for surgical purposes the anæsthesia of which it is capable—the claim to which is so strong, as determined by his experiments, as to have excited distrust of their correctness, perhaps, if the failure of the Profession to extend them to the thorough establishment of its virtues, mode of application, etc., can be so construed. Certainly, no experiments could be more plain, pointed, demonstrative, or conclusive than those of Dr. Bill, lacking nothing to establish its distinctive anæsthesia, to the exclusion of

the causticity, except careful repetition and reäffirmation. We are not aware that this has been done, and hence recent authors on therapeutics, while seemingly approving its claim, nevertheless speak of it in a lukewarm or reserved manner.

Wood* remarks: "As a local anæsthetic, carbolic acid has not been used so widely as it *seems to deserve.*" Stillé,† in his new edition, has little or nothing to say of its surgical uses as an anæsthetic, although in discussing its local physiological action, he ventures the following meagre allusion to it: "A mere superficial application of the acid is found to diminish the sensibility of the skin so much that incisions into the part, and even the application of caustic potash gives but little pain." How this "superficial application" may be made in order to secure this effect alone, it does not occur to him to explain; nor does he recur to the subject again in a practical sense. This induces us to reproduce the experimental testimony of Dr. Bill, and ask the Profession again to review it ere the facts drift into oblivion.

"All who have handled this substance must have noticed the tingling sensation (not unlike that produced by aconite) in the finger tips and other parts touched by the acid, which presently passes into a greater or less anæsthesia. On trying to determine the amount of this anæsthesia with an æsthesiometer, it was found not only impossible to distinguish two points, however widely separated, but even to recognize the presence of one."

"The prick of the point was not felt at all as pain, nor was an incision productive of uneasiness. The experiment was, therefore, extended thus: The radial side of the writer's left forearm was covered with a cloth soaked in a saturated solution for a half hour, then a streak was traced over the course of the radial artery with a camel's hair brush dipped in acid liquefied by one-twentieth bulk of water. This streak extended from the styloid process to near the elbow, and after a few minutes was rubbed off. An incision was then made with a

* Wood's Materia Med. Ther. and Toxicology, 1874, p. 547.

† Stillé's Materia Med. and Ther., vol. ii., 1874, p. 778.

common scalpel, from a point about two inches above the styloid process towards the internal condyle for five inches, occupying as nearly as possible the middle of the streak made with the brush, and extending to the fascia investing the flexor muscles (superficial) of the thumb and fingers, so that at its lower extremity the radial artery was exposed and could have been ligated. This incision was unattended with pain, save where nerves distributed to or passing over the muscular fasciæ were pricked or divided, and even in this case, the pain was not at all unbearable. *The incision of the integument was painless*, and the writer would have been unconscious of the injury, save from the sensation communicated to his hand holding the knife as it was drawn through the tissues."

Again: "He removed from his right hand, by an incision of over two inches in length, a large wooden splinter which had been thrust through the palmar fascia, and had lodged under the tendon of the lumbricalis of the index finger. It was done without pain, save when a nerve was divided. The incision healed without scar."

Moreover, he cites instances, such as the opening of buboes, felons, removal of small tumors, etc., declaring the operations to have been painless, and recommending the "plan in any cutting operation where no dissection of the skin is involved, and where all the pain results from the cutting of the skin."

In a more elaborate article published in July, 1872 ("American Journal of the Medical Sciences"), still pursuing the subject, he remarks: "This anæsthesia is at its height in fifteen or twenty minutes, and involves the whole dermal envelope down to the cellular tissue. The skin so affected may be punctured, cut, or burnt without sensation * * * a continued use of carbol as an anæsthetic in operations requiring only the incision of the skin has established our first confidence in it. We think, too, there is something in this use of carbol which predisposes to a very rapid healing of the incision so made, for over and over again such incisions have healed without leaving a cicatrix."—(Page 35.)

It strikes me that such evidence is indubitable, rendering it impossible, denying to the article the possession of properties as an anæsthetic, combined also with others, that render it not simply safe, but highly promotive of success in its surgical uses for the prevention of inflammation and suppuration, thereby facilitating healing without cicatrization. It benumbs the part incised without disturbing its nutrition afterward, so as to favor inflammatory reäction with its uncertain results; the reäction after surgical interference becomes so tranquilized as to allow the rapid and immediate reparation of the injury; that is, when parts comparatively healthy have been the seat of operation. Local anæsthesia induced by the usual means, as by the frigorific mixture of ice and salt, ether spray, rhigolem, etc., are each followed by a reäction in close correspondence with previous congelation of the tissues, which, if not essentially painful, yet leaves the part a prey to whatever irritation, inflammatory or otherwise, may chance to arise. Open to infection and liable to suppuration, the wounds foreshadow a progress far less safe, certain, and speedy than after the use of carbolic acid.

Little has been done to supplement the work of Surgeon Bill by other surgeons. Here and there a writer mentions its favorable employment in isolated cases, but nothing looking to a positive reäffirmation by further and equally conclusive experiments, or to the denial, with proof, of its claim to surgical anæsthesia, has been given to the Profession. Its antiseptic, anti-inflammatory, and anti-suppurative effects have apparently absorbed their attention, to the exclusion of its equally peculiar and decided anæsthetic power.

Physicians bear testimony to its great value in this direction by the general habit of prescribing it for painful, irritable diseases of the skin attended with much itching, as in urticaria, pruritus, irritable eczematous affections, burns, etc. This testimony is quite as direct as in its surgical uses, although its anæsthetic control over painful affections of the mucous membrane is by no means clearly proved. For obvious reasons, it

may be less than in cutaneous disorders, since its immediate dilution or removal by a free secretion of mucus under primary contact would probably prevent that penetration of the tissues necessary to its satisfactory employment. In the case of deeper structures, as approached through fistulæ and sinuses, it is not denied its usual effect, as the following interesting case reported by Dr. Bill shows. It is worthy of close scrutiny where its antiseptic power is likely to be questioned. He says: "Balls may be searched for with best advantage after the use of carbol. Thus, in a case of gun-shot wound of the tibia (a pistol ball entering at the popliteal space, ranging forward and downward) with abscess in the head of that bone, which we had trephined under ether. It was impossible to use the probe without resorting to general anæsthesia. The free use of carbol for twenty-four hours not only changed the whole aspect of the case, but allowed us to make such a free use of the probe and scoop, for nearly an hour, that we finally discovered the ball half way down the cavity of the tibia, and readily scooped it out."

But it can not be necessary to pursue the subject further, we must regard its local action as an anæsthetic as more or less definitely established. With this concession, we must next ascertain under what mode of use this may be secured to the exclusion of its caustic effects. "It is one thing," says Erasmus Wilson, in speaking of sulphur (I believe), "to possess a remedy —it is another and a more difficult one to know how to use it," to secure its therapeutical benefits. A skillful mechanic with poor tools may turn out a fair job, but an unskillful workman even with the best of tools will fail. So it is with all medicines and appliances. The hand that guides must in turn be guided by a thorough knowledge of the necessary mode of adjusting the means to the end.

As the caustic effect is only produced by the pure acid, to avoid this a dilute solution, either as a preliminary to the subsequent application of the caustic, or as a necessity, must be employed. As observation shows that all of its solvents are not

equally efficient, some indeed neutralizing it, it becomes important to make a proper selection from among them.

It requires twenty parts of water to take up one of carbolic acid, while ether, alcohol, acetic acid, glycerin, the fixed and volatile oils dissolve it readily. Which is the best for anæsthetic purposes?

According to Dr. Bill, "Lemaire has shown that glycerin diminishes the effects of carbol"—we presume both caustic and anæsthetic effects. As the result of his own observations, he adds, "solutions of carbol in glycerin have no anæsthetic, or, so far as we could discern, other effect, when applied to the skin." This is remarkable, we think, and yet not without explanation when we consider that glycerin is an unctuous substance, and possesses an *exosmotic* power equal to the draining of a vascular surface, by reason of its affinity for water, which, of course, retards, perhaps prevents, at the same time that it dilutes, the absorption or penetration of the acid. This establishes the safety of the uterine structure when carbolic acid is used as an intra-uterine application, it may also suggest its inertness, except as a local corrective or disinfectant.

With acetic acid it is said to exert a "powerful anæsthetic effect, but the incisions heal badly, and even if the solution is applied to sound skin an abscess is very apt to result." (Page 35, "American Journal Medical Sciences," July, 1872.)

Oils are less powerful than water and alcohol, which are deemed the best for practical anæsthesia. A saturated solution of carbolic acid in water (1 to 20) is to be preferred. If the part to be cut is soaked in this, or even a weaker solution for twenty to thirty minutes, it so changes the absorbent and resisting power of the tissue as to allow the application, subsequently of the pure acid, without caustic or injurious effect. The anæsthesia is deepened without prejudice to the nutrition of the tissue thus affected. It may be presumed that the water solution prepares the part precisely as in the experience of Mr. Wilson, the pure acid applied to the hypertrophied papillæ did for the painless use of the caustic potash. This

preliminary seems to be necessary to prevent the caustic effect, at any rate, the strong acid subsequently used for a short time prior to cutting does not affect the vitality of the tissues.

This was Dr. Bill's method, and should not be lost sight of in the repetition of his experiments. We regard it as essential to the preservation of the part against mummification or permanent anæsthesia. A failure to regard this important element in the safe use of the agent is one source of disappointment with the article. Dr. Bill says, in speaking of the local action of carbolic acid on the tissues, besides the blanching which marks the site of its application, there is a "contraction of the capillaries of the part," a condition which seems to protect them, so to speak, against undue causticity of the pure acid, when premised by the weaker, by permitting its injurious penetration into them.

In conclusion, if we succeed in directing attention to this neglected effect of the agent so far as to lead to its affirmation or denial, by well conducted observations, one object of this paper will have been effected.

ART. II.—HYPODERMIC MEDICATION. By J. B. HUGHES, M. D., Newberne, N. C. [Read before the Craven County Medical Society, and published by request of the Society.]

A distinguished philosopher being once asked what constituted the highest pleasure of which human nature is susceptible, replied, "the relief from pain," consequently he who is able to annihilate or even mitigate pain, is conferring upon his fellow-man an inestimable blessing, and it is undoubtedly the fact, that from the earliest to the latest moment of man's career on earth, the great obstacle to his happiness and usefulness is the existence of pain in some form or other, and his ingenuity and scientific acquirements have been directed with all the energy with which he has been endowed to invent a means to extirpate this universal and terrible affliction. In medicines as in

other sciences, the mechanics and arts, most of the great discoveries have been made, not through a process of logical reasoning, but by accident, and may be coïncidently by persons in different parts of the world, and sometimes engaged in different pursuits: a common want existing, men's minds are on the alert for a means to supply it. In this effort, the original idea may come forth crudely, and most times far short of its full breadth of application, but serves as a nucleus for constructing step by step a grand principle of benefit to man. At its first promulgation it has been hesitatingly tested, indifferently received, found many to oppose it, and is always derided, but in medicine if the crowning result—relief of pain—be proved, then its spread is rapid and world-wide, and the individual who succeeds in convincing the public of this virtue is entitled to be called a benefactor of his kind. This gratification may not be enjoyed by the originator of the idea during his life-time, and perhaps it is right to divide the honor with him who at any subsequent period may develop it, and so apply it as to bring its usefulness within the reach of all. Thus ether in 1818 was recommended for catarrhal affections of the lungs, and was said to act somewhat like nitrous oxide, and had been known for other qualities for a half century before its full anæsthetic virtues were discovered and applied by the dentist, Morton, September 30, 1846. Chloroform was discovered and its qualities conjectured simultaneously by Guthrie, of Sacket Harbor, N. Y., and Louberain, of Paris, in 1831, but it was reserved for Simpson, of Edinburgh, November, 1847, to demonstrate its application as an anæsthetic, and its superiority to ether. The active use of these agents, gave impetus and popularity to the practice of inhalation, as a general method of administering medicines, and since then another method more valuable has been added in hypodermic medication, the subject we propose hastily and in part to review. (And in advance I would here acknowledge my indebtedness to the current periodicals, and especially to Bartholow's work on Hypodermic Medication, for many facts and statistics herein stated.)

This idea, like the other, first came forth crudely, and was subsequently developed for general usefulness. From time immemorial it had been occasionally found necessary to administer medicines by removing the cuticle with a blister and applying the remedy to the raw surface. Laforgue advanced one step further in advocating the idea of inoculating the system through and under the skin with medicines as being more prompt and efficient than by the usual avenues; "his method was to insert the remedy in the solid form under the skin by means of a grooved needle. The idea was not popularly accepted nor practiced by the Profession; but, as stated by Bartholow, in 1839 Dr. Taylor and Dr. Augustus Washington, of New York, practiced it in that city by puncturing the skin with a lancet and injecting the medicine in solution under the skin by means of a syringe. Dr. Washington was formerly a resident of Kinston, N. C., and his sister, now living in Newberne, informs me that during a visit she made him in New York in 1841 and 1842, she saw him administer morphine by this process to a member of the family for neuralgic pain, with the effect of immediate relief; he spoke in praise of the great value of this means of medication. The idea still lingered until 1844, when Dr. A. Wood, of Edinburgh, invented the little instruments now in use, and commenced the injection of morphine hypodermically as a local remedy for neuralgia, and asserted that iodine, persulphate of iron and the like could be thus applied for the destruction of nævi, aneurismal tumors, etc. Dr. Wood labored for years to impress the Profession with its therapeutic value; and Dr. Rynd, of Dublin, who also claimed originality in its use, working for the same purpose, they succeeded in obtaining a few in Great Britian, Germany, and France to test the matter, and they could not withhold their approval and endorsements. Dr. Fordyce Barker, in 1856, was the first person to introduce one of these instruments in the United States, and practice hypodermic injections as we now use them. The principle of action of this process was imperfectly understood till 1858, when Dr. Charles Hunter, of St.

George's Hospital, London, developed it in full and proved its incalculable value and universal application. He carried his experiments to a great extent, analyzed them with a master mind, proved that its local was only secondary to its systemic effects produced by absorption into the circulation, and it was equally certain and beneficial when applied to a distant point as immediately over the seat of pain. One year later he submitted the following propositions to the Medico-Chirurgical Society of London, which were entirely concurred in:

"1. That equal effect upon an affected nerve follows the injection of morphine, whether it is made close to or distant from the nerve.

"2. That by varying the site of the injection, the evil effects of localization are avoided.

"3. That diseases which are neither localized nor neuralgic can be thus treated.

"4. That therefore other medicines than anodynes can be thus administered with the advantages which are peculiar to this mode of administration.

"5. These advantages are considerable in cases of urgencies in which the immediate and direct effects of the medicinal agents are required upon the system. This method, under certain circumstances, is far more efficient than when administered by the mouth or rectum. The doses should be one-half or one-third less than when administered by the mouth."

The great point in Hunter's doctrine is, that anodynes (at first the only medicines used) injected hypodermically, produced their effects, not locally, as originally stated, but through absorption into the circulation, and this was manifested by the pulse before the expected result was accomplished.

Immediately beneath the skin and covering the entire body lies the fibro-cellular fascia, which is composed of cellular tissue containing in its areolæ a large quantity of fat cells; through this tissue pass the minute blood vessels and nerves to the papillary layer of the skin, while the lymphatics terminate by capillaries in the subcutaneous tissue. The former idea that

absorption took place only through the veins is erroneous; all of the vessels are concerned in this process. The rapidity with which absorpton is accomplished is in inverse proportion to the thickness of the epithelium in the organs and vessels; and, as the capillary blood vessels and lymphatics consist of a simple homogeneous membrane lined by a single layer of epithelium, these vessels offer the speediest avenue of absorption. The cutis covering the derma or true skin is the thickest layer of epithelial cells; but if this is removed, absorption takes place rapidly through these same capillary vessels.

Thus, in experiments on rabbits, it has been reported that the smallest quantity of strychnine that will kill a rabbit by the mouth is 1-16th of a grain; by the rectum 1-25th; by subcutaneous injection 1-120th. Whilst all capillary vessels are concerned in absorption, the lymphatics, by election, appropriate the fatty matters; but the blood vessels absorb all "gaseous, fluid, and even minutely divided solids; anything that is capable of mixture with the blood." In injecting a fluid under the skin, beside the principle of osmosis, by which the lightest fluid flows through the membranous walls to the denser fluid, the blood, Cohnheim has demonstrated that all the blood vessels are possessed of a vital principle, which permits of the opening and closing of small orifices or stomata, and the escape not only of the fluid portion of the blood, but also of the blood corpuscles.

Thus can be easily comprehended the rapidity of absorption of a fluid coming directly in contact with a homogeneous membrane, lined with one layer of epithelium and possessed of a power of making orifices in its walls. A solution of ferrocyanide of potassium injected in the jugular vein of a horse has been detected in the veins and carotid artery of the opposite side in thirty seconds; and it has been calculated that a safe estimate of time for a particular portion of blood to make the "round of circulation" in man is one minute. Medicines administered by the mouth or rectum come in contact with the ingesta and fluids, and a thickened layer of epithelium, "dis-

tended veins, and, may be, diseased secretions"; and if no part of it was carried off by mixture with these contents, the process of absorption would be necessarily slower than when brought into immediate contact with the capillary vessels under the skin, with scarcely any thickness of tissue to intervene between the medicine and the blood. Thus, in different individuals, the period of absorption and systemic effect of an injection of morphine has been variously observed in from fifteen seconds to from four to ten minutes. The manner of performing this little operation is familiar to us all; the chief care being to avoid the puncture of a vein, in which event the absorption is so rapid as to produce faintness, great prostration, and excessive narcotic effect. By frequent injection, the cellular tissue will become congested and "matted," the absorption delayed, and the contractility of the skin so diminished, that unless caution be exercised, much of the fluid will escape from the point of puncture. In two cases which I have seen, there were produced diffused abscess and swelling of the whole surface, skin as well as fatty tissue; each of these cases had received upwards of 2,500 injections. As a matter of experience, it has been found best to prepare the medicine for injection at the time it is required for use, and the best solvent is distilled water, seeing that the medicine is thoroughly dissolved.

The original idea of hypodermic medication, as propounded by Wood and extended by Hunter, was with the view of relieving pain, and the remedy applied was almost exclusively morphine; but since its principles have become better understood, mostly all of the alkaloids and many other medicines have been used in this way.

The result of repeated experiment by hypodermic medication has opened a new field of therapeutics. The effects of medicines, and especially of morphine, by this process are so difficult, that it would be almost impossible to reason out such results from those produced by administering them by the usual avenues. Persons suffering with spasmodic and neuralgic pain can be almost stupefied with morphine given by the

mouth and rectum, and yet experience no consciousness of entire relief, whilst one-fifth of the quantity, hypodermically used, will not only give relief, but fill their souls with the transports of elysium.

Unfortunately, with its great good, it has its attendant evil, and the morphine habit may be contracted by this process more thoroughly than by the mouth, and every effort must be made to avoid such a result. Bartholow has suggested that to overcome it, atropia may be gradually mixed with the morphine, so that the pleasant effects grow less and the patient becomes willing to give it up.

My personal experience has been confined, in a great measure, to the use of morphine. There is no character of pain but which is benefited or entirely relieved by this agent hypodermically used, and many hitherto intractable diseases yield to its magic influence, while only temporary or partial relief had been obtained when given by the mouth. This is notably true of rheumatism, chronic cystitis, and syphilitic nodes, when not only is the pain ameliorated and sleep induced, but the morbid process is modified, and specific remedies more speedily act on the system. Dr. Lawson claims that it is the only certain cure for that intractable malady, sciatica. I have been tempted to think I might claim priority in its use for asthma, having tried it with success as a last resort in a case of desperate suffering, October 25, 1870, but subsequent research convinced me of the error, and I found that others had preceded me, and applied the remedy as I had done in this disease, on the principle of its allaying all spasmodic action, and surely its effect is most gratifying, and almost all that could be asked. In spasmodic asthma, both inspiration and expiration are attended with prolonged wheezing, and the patient gasping for breath is a pitiable picture of distress, which has but one grain of comfort in it, and that is, great as the suffering may be, it is rarely attended with a fatal result. Dr. Williams confirmed by experiments Lænnec's true pathology of asthma to consist of a spasmodic contraction of the bronchial tubes, which interferes with

the ingress and egress of air. Dissection proved that muscular fibres do exist in the bronchi, notwithstanding previous denials, and that the contractility of these fibres was different from that of ordinary muscles, as was proved by various drugs. Thus, Dr. Williams found that "hydrocyanic acid does not affect it at all, opium and morphine very little, conia and aconite a little more, whilst belladonna and stramonium almost destroyed it"; and these last two remedies administered in the usual way were claimed to have specific influence over the paroxysms of the disease. But upon injecting morphine hypodermically, it is found that so far from only slightly affecting the contractility of the bronchial fibres, it will destroy it as completely as it does muscular spasm in any other part of the body, and infinitely quicker than either belladonna or stramonium, even though they be hypodermically administered, thus illustrating again the truth that morphine action is different by this process from that when administered by the mouth. In simple spasmodic asthma, the attack may soon pass off and leave no trace behind it; but if often repeated, the "bronchial membrane becomes congested, leads to imperfect and deranged secretion and permanent thickening, with enlargement of the bronchial glands," the disease becomes chronic, and may be only palliated by morphine injection.

In two cases under my care, one of them is of the latter description, and whilst he has not been, and may never be, cured, his life has ceased to be a burden to him; the paroxysms are lighter and changed in character; the respiration having become short and shallow rather than spasmodic. He has learned to use the little syringe himself, and can always avert or cut short a paroxysm by a timely injection. The other case at one time seemed to have developed emphysema, and had an attack every three or four days, and sometimes oftener, notwithstanding every precaution to keep it off. By the use of morphine injections his attacks are rarely more frequent now than once in seven or eight weeks, and twice he has had an exemption as long as three months. Now the attacks

are generally induced by imprudence or overconfidence, but are always promptly relieved in a few minutes by this remedy, whereas he formerly suffered for a whole night or day before he could be relieved by the ordinary plan of treatment.

In diseases of the heart, opiates have been used by the mouth with doubtful propriety, but morphine hypodermically has proved eminently beneficial. Angina pectoris, with disease of the coronary arteries, as illustrated by the case of the late Senator Sumner, irritable heart and mitral disease are all relieved of their terrible distress by this means. In cholera, where the gastric mucous membrane is incapable of absorbing anything, the morphine injection will often relieve. Bartholow makes mention of an epidemic of this disease at Constantinople, in which it was reported, that of 10 cases treated in the ordinary way 9 died and 1 recovered, whilst by hypodermic injection of morphine in 42 cases, 22 recovered and 20 died, but as atropia stimulates the action of the heart, causes redness and injection of the skin and increases temperature, it ought to suit this disease better than morphine, and has been so suggested by Dr. J. M. Keller, of Kentucky. In delirium tremens where oftentimes it is impossible to administer medicines otherwise, morphine injections have proved of great value. It has also been used in epilepsy, and it is said that a paroxysm can be averted by its timely use, or, if developed, will subside readily under its influence, and the attacks become less frequent and violent; thus in those different states of the brain anæmia and hyperæmia, the morphine injection by some mysterious agency acts equally well. It is asserted that a morphine injection preceding the inhalation of chloroform will make the latter act in a smaller quantity, more speedily, with more effect, and prevent the nausea and sinking, which sometimes follow it. The antidote for excess of morphine is atropia, and persons who can not take the former from some idiosyncrasy are enabled to do so by combining the latter with it in doses of one-ninty-sixth of a grain. Morphine diminishes the frequency of pulse and respiration, and reduces the temperature, and should be

used with great caution, if at all, in the very old, the very fat, and those suffering with disease of the kidney. Atropia is supposed to be generally inferior to morphine in its therapeutical application, except in rheumatism, when it is said "to modify the morbid process and expel the urates, the excretion of which represents the active, but imperfect tissue change." It is better, however, in this disease to combine morphine with it, say of the former one-ninty-sixth of a grain, and of the latter one-fourth of a grain. In toxic effect one-twenty-fourth of a grain of atropia is equal to one grain of morphine. Strychnine has been used in doses of one-forty-eighth of a grain to one-thirty-second of a grain, especially in paraylsis. Quinine is given to meet the same indication as by the mouth, but as a rule from three to five grains will break up an intermittent attack, and it is particularly useful in pernicious fever, when its effects are immediate and decided. It should be administered in anticipation of the paroxysm, but may be used after the cold stage has set in. Ergotine has been useful in doses of one-sixth to one-fourth of a grain, particularly to arrest hæmorrhages of every description, and is claimed to be superior to almost all other means. Aqua ammonia in one-half drachm doses with two drachms of water has been injected into the veins, in cases of poisoning by venomous serpents, and in complete collapse, with reported success. The bichloride of mercury has been settled upon as the most available and efficacious preparation of this mineral, and is now used to the exclusion of all others in hypodermic medication. Its use is confined principally to the treatment of syphilis. It is no longer a doubtful question in the treatment of this disease that mercury stands preëminent among all the remedies ever tried, and though decried, abused, and almost overwhelmed with charges of injury and destruction of life, it now has a firmer hold on the confidence of the Profession than at any previous period of its history. The injection is generally attended with a stinging pain and redness, and if too strong "the tissue becomes indurated and inflamed, and is followed by abscess and an ulcer, which heals very slowly." The usual proportion

of abscess to injections is from two to eight in the 100, but if morphine be added to the bichloride, the formation of abscess is less frequent. The occurrence of salivation as well as the duration of pain attending the injection depends upon the strength of the injection. Thus Lewin used regularly one-tenth to one-eighth of a grain at each injection, while Liegevis used only one-sixty-fourth to one-thirty-second of a grain. The former reports fifty cases of salivation out of 144 cases treated, the latter reports only four out of 196 cases. Salivation is not necessary in the treatment towards accomplishing a cure, for Liegevis' successes are greater than Lewin's. The remedy has been used in all forms of the disease, and is claimed by its champions to be beneficial in all, but it must be confessed that to most minds it would be of doubtful propriety, where the bones are seriously involved. Lewin reports that in 107 cases treated exclusively with bichloride of mercury he had twenty-four relapses; out of 60 cases with iodide of potash combined with it he had 14 relapses, whilst by the ordinary plan of treatment the relapses are said to be at the rate of 81 in the 100. Liegevis reports 196 cases, of these 127 were cured and 69 ameliorated. The number of injections of the strength of one-sixty-fourth to one-thirty-second of a grain were 68 for the cured and 50 for the ameliorated, and the period of treatment two months. The rapidity of cure depends upon the strength of injection and the length of time the disease has existed. In Lewin's cases, he employed in the whole treatment an average of only two and five-eighth grains of bichloride mercury for males, and two and one-fourth grains for females, being three-eighths of a grain less for the latter. The back, buttock, and chest have been selected as the best location for the injections of this remedy, and the operation should be performed every day. These results speak for themselves.

In conclusion, hypodermic medication is available in so many conditions of the system, where aid otherwise would be impossible, and has conferred such relief to suffering humanity, that we think in its value and usefulness it is to be compared with and placed side by side with chloroform and ether.

ART. III.—REPORT OF A CASE OF STRANGULATED INGUINAL HERNIA IN A FEMALE, WITH OPERATION, TREATMENT, AND RECOVERY. By Dr. S. L. S. SMITH. [Read before the Central Kentucky Medical Association, July 21, 1875.]

I was called on Tuesday, February 2, 1875, in consultation with Dr. J. B. S. Frisbie, a resident physician of Crab Orchard, Ky., to see Mrs. Jane K., a lady residing about a mile west of that village, who had been afflicted some two or three years or more with a hernial tumor in the right inguinal region. The history of the case is obscure. Mrs. K. is an American, aged about fifty-one, the mother of a large family of children, the youngest of whom is about twenty-one years of age. She has generally enjoyed fair health, and remembers very little about the commencement of her trouble, and never wore a truss or thought it necessary to give it much attention. She has suffered occasionally during the past year some inconvenience in walking, and at the solicitation of her friends, placed herself under the care of a physician in Stanford, who gave her internal medication for the removal of the tumor. At the time of my examination with Dr. Frisbie, February 2d, I found her in as good health as usual; suffering no pain, but somewhat depressed in spirits, from the fear of an operation.

The tumor was located immediately over the right internal abdominal ring, with its longer axis extending along the course of the inguinal canal towards the labia. It was oval in shape, and about as large as a goose egg, and of a solid, doughy feel. We applied gentle taxis, and succeeded in effecting a partial reduction, but not entirely so; and from this circumstance diagnosed our patient's case as one of entero-epiplocele with adhesions.

The question of an operation was mentioned, but as the patient's bowels had moved that morning and she suffering no inconvenience or pain, it was deemed under the circumstances unwarranted. I advised the administration of tonics and cathartics, and left the patient in the care of the family physician, with the request to keep me informed of the progress of

the case. I thought no more of it until Saturday, February 6th, when Dr. Frisbie notified me that Mrs. K. was in a precarious condition; that he had used active cathartics, but failed to accomplish anything towards her relief. Her stomach was irritable, unable to retain anything, and the bowels quite tympanitic; pulse feeble and 100 per minute. I immediately visited the patient, and found her condition exceedingly grave. She was very much debilitated from continuous vomiting, and complained of occasional pain in the neighborhood of the tumor and the region of the umbilicus. While informing myself of her condition, during the interim of my visits, she had two severe vomitings of stercoraceous matter of an exceedingly disagreeable character.

It was now very evident to Dr. Frisbie and myself that an operation to reduce the strangulation of the intestine was the only alternative left, but the enfeebled condition of our patient made such a recourse almost hopeless, and we both realized the fact that we had made a mistake in not operating the day of our first consultation, when our patient was stronger and the prospects of recovery more favorable. While chloroform was being administered by Dr. Frisbie, I succeeded in reducing a large part of the tumor by taxis, and as soon as anæsthesia was produced, proceeded to operate by making an incision about two or two and a half inches in length along the axis of the tumor, and afterwards carefully dissected layer after layer of connective tissue and fascia, until the sac was reached, and opened on a grooved director. On introducing my finger into the sac there was considerable effusion of bloody serum, with occasional hard clots of blood. The knuckle of intestine involved in the stricture was slightly congested, and adherent at several points; these I released with my finger, and on following the course of the intestine, it was found to protrude from the internal abdominal ring. Poupart's ligament could be plainly felt at the lower portion of the sac. I introduced the tip of my little finger into the ring and endeavored to enlarge it without cutting; but finding that impossible, I carefully incised the tendinous mar-

gin about an eighth or a quarter of an inch, with the satisfaction of finding the strangulation removed and the intestine easily returned to the abdominal cavity; the sac, was then sponged out, and the external wound through the integuments closed with appropriate sutures; leaving an exit for the escape of the products of suppuration at the most dependent part towards the labia. The patient was under the influence of chloroform about thirty minutes, and did not lose an ounce of blood. She experienced no unpleasant effects from the anæsthetic, and appeared to stand the shock of the operation very well. The external wound was dressed with a cold compress, and cold applications ordered to be applied every five minutes. The patient was prescribed a full opiate with appropriate tonics and stimulants, and this treatment continued until all danger from peritonitis had subsided.

The following day the family physician, Dr. Frisbie, informed me that our patient had three movements of the bowels the afternoon and night after the operation, which was good evidence that the intestine was intact and uninjured. Pulse 126; some thirst; tenderness of abdomen not increased; has no craving for food, but takes nourishment enough; kidneys act well; tongue coated, but not pointed or red.

February 8.—The second day after the operation I saw the patient again. She was very weak and anæmic, but in good spirits. The bowels were acting well, with no tenderness over the abdomen or intimation of peritonitis. The wound appeared healthy, and with the exception of a slight inflammation about the edges, it was scarcely discernible. The extreme debility of the patient, in connection with her age—fifty-one years—rendered the prognosis of the case exceedingly grave; but the absence of any symptom indicative of peritonitis encouraged us to hope that, by careful nursing, she might recover.

On the 11th, Dr. Frisbie found the patient very stupid from the effects of opium; pulse 120; tongue badly coated; respiration normal, with tendency to cough; bowels containing a good deal of gas, but soft and free from tenderness; skin soft

and moist; appetite fair. On removing every alternate suture, he found on either side of one stitch a sphacelated point, and, on removing it, a quantity of dark fetid blood was discharged from the interior of the sac. The cheeks of the patient were flushed, of a dark crimson color; her kidneys were active, although deficient in quantity, and it was plainly seen that she was suffering from symptoms of septicæmia. Dr. Frisbie now ordered the cold applications and opium suspended, and prescribed drachm doses of castor oil with two drops of turpentine every three hours; sulphate of quinia, two grains, every four hours; spirits of nitre in teaspoonful doses every six hours, until the kidneys were sufficiently stimulated, with plenty of nourishment, in shape of rich broth, alternating with milk punch every two hours. The wound was dressed with a lotion consisting of ten grains carbolic acid to an ounce mixture of equal parts of water and glycerin.

The next day the condition of the patient was announced as follows: Pulse 108; skin moist, with no fever and less tympanitis, and a sloughing condition of the sphacelated point previously mentioned. The case was now regarded as exceedingly grave, unless a reäction was immediately accomplished. I saw her as soon as possible, and found her rapidly sinking from the absorption into the circulation of the poisonous contents of the sloughing wound, which had greatly healed by first intention at the extremities, thus preventing proper drainage. Another reason assigned for this condition of the case, was the want of vitality on the part of the patient for the proper reparation of the wound, and the carelessness and inattention of the nurses, who thought the case hopeless, and neglected to dress the wound on account of the odor.

An examination revealed the slough to extend almost the entire length of the excision. I carefully removed it and thoroughly cleaned the sac of the putrid contents, and injected carbolic acid freely, and then applied a flaxseed poultice sprinkled with charcoal, and gave directions to change it often enough to keep it moist. The treatment of the previous day was discon-

tinued, in so far as to substitute tincture ferri chloridi for the quinine. At midnight the wound was again dressed and the patient's condition noticed to be considerably improved, which was more manifest by morning, when the wound was again dressed. The voice was stronger, appetite better, bowels, skin, and kidneys acting well; no fever, and no tenderness over the abdomen.

February 14th.—She was pronounced in a more hopeful condition than at any previous time. The wound was discharging laudable pus; pulse 86; fever slight and diminishing daily; respiration about normal; bowels regular, with no tympanitis; kidneys acting well. The tincture ferri chloridi was now omitted, and quinine, with good nutritious diet, given at regular intervals. The suppuration continued several days, when healthy granulations developed, and the wound healed, with the patient's complete recovery.

I have not seen Mrs. K. since, but understand from her son that she is able to attend to her household duties, and at present enjoys better health than previous to the operation.

In conclusion, I may add, it will be perceived that this case presents several remarkable features, principally the complete absence of peritonitis, and recovery from the effects of septicæmia, while the patient was in an extremely prostrated condition from enfeebled vitality.

ECLECTIC DEPARTMENT.

"Carpere et colligere."

ART. I.—ANIMAL PARASITES. By SPENCER COBBOLD, M. D.

Dr. Spencer Cobbold delivered an address—one of the series of Science Lectures for the People—at Manchester, England, extracts from which we propose to publish, not because the lecture is highly finished or profound, for that was not the purpose of the lecture, but because it is extremely simple and

intelligible, and discusses a question which ought to receive a large share of professional and public attention. After some preliminary observations to prepare the way, the gentleman said:

Confining our attention to internal parasites, we call them technically the *entozoa* or the *helminths*. Those of you who are not Greek scholars may wish to understand that this term means "life within," that is, internal life, or internal parasites; and, further, I must tell you that those people who specially study these creatures are called helminthologists. The student of parasites, by whatever name you call him, recognizes four principal kinds of creatures which reside in these various territories. They are named respectively (as you see on the smaller list), first, the cestoidea, which means tape-worms; secondly, the trematoda, which means fluke-worms; thirdly, acanthocephala, which means thorn-headed worms; and, fourthly, nematoidea, which means thread-worms. I must in the next place explain to you that these are totally distinct classes of parasites, though all four of them possess one character in common, namely, that they reside inside their bearers and not outside. They are, therefore, as before remarked, called entozoa, in contradistinction to the external species which are technically known as the ectozoa. All those parasites whose names are colored red in these lists are what we call fluke parasites; those that are colored green are called thread-worm parasites; those that are colored blue, tape-worm parasites. We shall now principally concern ourselves with the flukes.

The trematoda derive their name from a Greek word meaning "perforated." The group termed acanthocephala, is not represented by any resident belonging to the territories placed before you. However, I have brought one drawing illustrating an acanthocephalous parasite. This echinorhynchus, as it is called, is a singular looking creature. It has a large head, narrow neck, and thick body. Its large head is covered all over with hooks. The species here figured is one that lives inside the whale. Other allied species dwell in cetacean animals, which, of course, must

needs be very like a whale. There is one of our domesticated animals which also has the previlege of harboring a species of echinorhynchus. The animal to which I allude is that delectable creature called the hog. Neither ourselves, nor the horse, ass, ox, sheep, goat, dog, or cat, are liable to have the privilege of entertaining this singular acanthocephalous guest. The expression "territory" is so long a word that we find it more convenient to call the bearer of the parasite the "host"; the parasites themselves being the "guests." We shall in future generally adopt these shorter terms. If a person is invaded by a parasite he is said to be the host, because he entertains the guest. Of course the guest is unusually an unwelcome one; however, I have known guests of this description cultivated or farmed in the human territory or host. For example, when I was, some years back, performing a number of experimental researches, I required a large quantity of parasites to experiment with; and one human host was kind enough to rear an immense number of these creatures in his own territory for my especial advantage. I usually gave him a shilling whenever he brought me a bottle full. But I said just now that I would explain a little more clearly, if I could, the nature of these three groups, trematodes, nematodes, and cestodes. You must have some general notion of what a fluke consists before I attempt to enter into details. Here is a series of drawings placed before you, collectively representing many different kinds of flukes.

I dare say you would wish to know the meaning of the term fluke. It is an old word, which signifies anything flat. When a person speaks of a fluke at billiards, he means that the stroke was a stupid one, or that of a stupe or flat. The North Sea sailors call the divisions of the tail of the whale flukes; and when the great whale takes a plunge downwards, up goes the tail, and the sailors then shout out, I'm told, in not very good grammar, "there goes flukes." These parasites are called flukes, therefore, merely because their bodies are flat. You will probably recognize in this drawing the common fluke

which abounds in cattle and sheep, and gives rise to the formidable disease vulgurly called the rot. Hundreds, thousands, and millions of sheep sometimes perish in a single year on account of the prevalence of the rot epidemic, and this disorder is entirely due to the prevalence of the parasite in question, which takes up its abode in the liver of the ovine host. Here is a series of other flukes. You will see that after all they are not such horrible looking creatures. They resemble so many unrolled and extended leaves. Their beautiful branching organs here exhibited, are connected with the digestive system of the animal, forming, in fact, branching stomachs; and there are other sets of branching organs which form a system of vessels containing a fluid of a peculiar character. I will mention where one or two of these species come from. This (fasciola-hepatica) is the one from the common sheep, but occassionally the human host is permitted to have the privilege of entertaining the parasite. It has only been found in the human subject in eighteen or twenty separate instances, and is, therefore, an extremely rare human parasite. You need not alarm yourselves about this worm. Don't fancy when you are enjoying your mutton that you run any chance of infecting yourselves with this entozoon—nothing of the sort, I assure you. You are perfectly safe. Now, here is another still more remarkable fluke, which fortunately does not exist indigenously in this country. It is called the bilharzia, a name which I gave it in honor of its original discoverer, Dr. Bilharz, who is a physician practicing at Cairo. I can not tell you all about it; but it is a dreadful little creature, giving rise to a most terrible disorder in the human subject. Hundreds of thousands of the eggs of these parasites are sometimes found escaping from the body of a single person. The creature is a true fluke, but it is not so flat as flukes in general. It has, you see, a round body, with a sucker at the anterior extremity. About its internal structure I can not now speak, because it would take up too much of our time. Here is a little fluke (distoma lanceolatum), also from cattle, and about half an inch long. Here

is another pretty little fluke, called polystoma, which has a lot of little suckers. These were once thought to be mouths, hence its name. Here, again, is a beautiful little parasite, residing in a frog. Put it on a slide under the microscope, and you would exclaim, "What a charming creature." It is an exquisite object, only about one-fourth of an inch long. The frog is a host that is liable to entertain a considerable series of guests. Here is a fluke from the hedgehog; beside it is another one from the fox. Here are also two others I had the good fortune to discover between twenty and thirty years ago in a giraffe. You will notice a general family resemblance between this fluke and that of the sheep. They are, as it were, first cousins. The blue lines indicate the digestive system. Now, instead of having a simple stomach, such as we are favored with, it has a complex series of tubes dividing into a number of little branches, like the ordinary veins of a leaf. You will observe that the branches pass downwards, outwards. In another view of the same parasite you have the water-vascular system represented. So much for flukes.

Now we will examine a few of the next group or series, which is colored green on the list. These parasites are called round worms and thread-worms. The creatures figured here are illustrations of trichina. You have heard a good deal lately of the flesh worm called trichina spiralis; some persons pronounce it trichina, but it is more correct to give the second vowel short, in accordance with the Greek root. I wish to point out that these various illustrations represent forms of nematoidea, or round-worms. Here is one called trichocephalus, or whip-worm, because it is shaped like a whip. Here are more resembling common earth worms, but they have no sort of relation structurally to those inhabitants of the soil. Worms form a most unfortunate and improper collective name for these parasitic creatures; but I suppose we must retain the barbarous nomenclature, as a concession of time honored ignorance. There is one more group, namely, the cestoidea, or tape-worms. Here we have a truly singular series of creatures. Most peo-

ple have heard of such worms; but few will admit that they have seen any. There is one figured which is called taenia mediocanellata. It is the tape-worm which the human host obtains when he eats underdone beef. It is the most common form of human tape-worm. It is quite a delusion to think that the pork tape-worm is as common as that derived from beef. I can speak quite confidently on this point, because I have investigated the subject carefully. There is the creature represented at full length. It has four suckers, but no hooks. That one over the fireplace is from pork, and is recognized by its head having a series of hooks in addition to four suckers. The tape-worm is a most remarkable creature. It consists of a head and a segmented body, which is sometimes twenty feet long or more. The next question is as to the nature of those joints or segments. Each one of those joints or segments is what Professor Huxley would term a zoöid. It is a sort of semi-independent imperfect individual. In fact a tape-worm is not a single creature, but a multitude of creatures all arranged together in single file. You probably have some acquaintance with those pretty little objects which are found on the sea-shore—zoöphites, polyps, with numerous heads. Now the compound polyp is a colony of individuals branching out like a tree. But here is a colony of polyps ranged in single file like a regiment of soldiers; and thus one long creature is produced by a number of little beings adhering together; some 1,200 individuals being joined together so as to form a colony. The marvellous changes through which that creature passes I have not now time to dwell upon. My present object is merely to give you a clear and definite idea of the three principal groups of guests that have the privilege of residing in the human and other hosts, and to show that they are essentially distinct both structurally and generally.

Well, now, to pass on to the special part of my subject, let me give you a few details respecting the life history of one or two forms. Perhaps I can not do better than say something about one I have alluded to already, namely, the little flesh-

worm ; a parasite which takes up its abode in the human area (trichina spiralis). I hold in my hand a simple microscopic slide, and if this small specimen of flesh were placed under a microscope, you would observe 100 parasites at least. Now supposing the muscles of any human individual were infested with the parasite to the extent represented by this little specimen, you might probably state without exaggeration that he had the privilege of entertaining fifty million guests! In some instances more have been harbored by a single host. I happen to have examined part of the flesh of an unfortunate foreigner, who was killed in the streets of London, and who must, during life, have entertained a hundred million of these guests. If you examine a portion of trichinized flesh under this microscope, or even with a pocket lens, you will often notice an appearance similar to that which is represented in this diagram. You observe here a portion of simple flesh, and a number of little capsules, lemon-shaped and spindle-shaped. In each one of these capsules is rolled up a little flesh worm ; so that if you take one and magnify it still more highly, you will get the appearance presented in this second diagram.

Here is one of the trichinæ rolled up inside its capsule. Here is another representation of the same thing from a cat. You observe some eight lemon-shaped capsules, and in each one of those capsules is a little parasite. Now you would like to know some further particulars of the life-record of this parasite; how it gets into the human territory, and, in short, all about it. Those who are fond of underdone pork, and who happen to persevere in eating a quantity of it in the trichinized condition, will assuredly be liable to infect themselves with the parasite. The flesh of the pig is apt to contain these small capsuled trichinæ. They are so small that their length does not exceed the 1-25th of an inch from head to tail. When the consumer has eaten his meal (our friends, the Germans, are very fond of eating raw pork) he will, if he has swallowed half a pound of flesh, have taken into his stomach many thousands of these little parasites. But they are only larvæ; they are in a

juvenile state of development; and you will say, therefore, that they will do him no harm. Far otherwise. Although they are only in the larval stage of development, it suffices for them that they remain inside the new bearer—they are borne from the intermediary host, the pig, to the human being—I say it suffices for them to remain forty-eight hours, for they will by that time have become converted from the larval condition of growth into the mature adult trichina. Their growth is very rapid, and when they have arrived in the alimentary canal of the human bearer or host, their size becomes greater, but yet not very great. I have both males and females figured here. The male trichina is only 1-18th of an inch long, and the female, although she is very much larger, only one eighth of an inch long; so, after all, it is a very tiny parasite. Small though it be, it is able to produce wonderful effects. When they have been comfortably lodged in our interior for six days, by the end of that time an immense number of little trichinæ, the progeny of the full grown parents, make their appearance. They swarm out of the parent trichina by hundreds, thousands, and tens of thousands; thus collectively amounting in a single bearer to many millions. Well, what becomes of them? They have got into the alimentary canal. The embryos are very minute, not more, perhaps, than the thousandth of an inch long in the first instance. Their smallness, their toughness, their strength, and their armed mouths, enable them to bore directly through the walls of the alimentary canal, and thus the progeny is dispersed in all directions. They bore through the tissues and make their way to the surface of the body; they stop at nothing; they pass through almost every structure except bone, until they arrive at the muscles. They even pass through the heart; not finding its muscular substance a suitable permanent residence. During these wonderful wanderings or migrations (for all parasites have a tendency to wander or migrate) you have, as it were, an army of say fifty millions of these liliputian creatures; and the consequence is that the unfortunate host suffers the most agonizing pains. He imagines, perhaps,

that he has the gout or rheumatism, when it has nothing to do with rheumatism or gout, but is simply a disorder caused by wounds inflicted by these little wretches. And if he happens to have eaten very heartily of the trichinized pig, of course he stands a chance of being killed by these little creatures. What is enjoyment to them is real pain and sorrow to him. When they have bored their way through the tissues (supposing he does not succumb to the wounds inflicted by them) they settle down in his muscles in place of the pig's, and there they make to themselves comfortable residences. These residences show themselves ultimately in the form of little capsules, and there they remain. Then you will say, "What becomes of them?" They simply wait there, hoping that some one will come and devour the host; for if any one should play the part of cannibal (and there are cannibals still in existence), he who played the part of cannibal would in his turn be trichinized. If the human host is not devoured, what happens? A natural cure is effected. It seems to be the prerogative of nature in all cases where wandering parasites get into the human territory, that they shall live there for a certain time only; this length of time varying with different species, but in all cases, sooner or later, they perish by the process which is called calcareous degeneration—they become converted into little particles of lime; and thus the cure is effected. Such are the strange phenomena undergone by the little flesh-worm. One of the most interesting points about it is the rapidity with which all the processes of development take place. You have these creatures passing from the capsuled condition to the adult condition in two days; from the adult the eggs are given off; their contents in six days more being converted into little embryos, which pass through the tissues of the ultimate bearer to his muscles; so that in a period of three weeks, altogether, the whole life-cycle of the individual is completed. A more marvellous series of changes than in the life history of this group of parasites is not to be found.

You will remember I alluded to the tapeworm as a colony of

individuals ranged in single file, and I spoke of the beef tapeworm in particular. I have performed a series of experiments, and those experiments have resulted in giving us a more perfect knowledge of the entire life history and mode of development of that singular creature. For instance, I will detail to you one kind of experiment I made. I took a portion of such a tapeworm as you see there, comprising several of those joints or segments toward the tail end. Now each of those joints, when fully ripe or matured, contains 30,000 eggs; therefore, you can easily reckon up how many there would be in 12,000 joints, supposing all were mature. I took a number of those joints, I say, and put them into milk to make them easy of administration, and with the assistance of friends fed a calf with them. Well, they went down, and the calf was none the worse apparently. However, after a time—I won't describe to you the symptoms—it was quite evident that something had happened. Now what had happened was this. Some thousands of eggs had been swallowed. Of those eggs all that were perfectly ripe contained in their interior each a little creature called the six-hooked embryo. This small embryo has a round body, provided with two needles in front, and a pair of hooks on each side. With the two little needles it bores, and with the two pair of hooks, placed at the side, it tears the flesh of the host. When the calf swallowed the eggs, which were conveyed into the fourth stomach, the shell of each little ripe egg was dissolved by the gastric juice; all the little embryos thus making their escape. This was, you see, kindness to the embryos if it was unfair to the calf—communicating pleasure to 30,000 at the expense of one. I believe that principle of action in politics is a good liberal cry—"good to the many." I hope that similar ideas will be found to animate those who have been elected to day by your suffrages. The thousands of little creatures, rejoicing at being set free, swiftly made their way through the tissues of the host. This little calf did not succumb to these wounds, as the human bearer often does to the trichinæ, but by our assistance it recovered. Well, we cal-

culated how long it would be before these little embryos would arrive at the higher larval stage of development; and we had indications afforded us that it would be three months. So at the expiration of three months, our calf, which was now a strong animal, was slaughtered—for the market you would say, perhaps. No, not for the market. It was slaughtered in the cause of science and humanity; and when we removed the external parts, it was found that all the muscles, especially the superficial ones, were filled with the higher larvæ of this parasite. This larva, muscle, or bladder-worm, is called, scientifically, the *cysticercus bovis*.

Now the little larva, when examined, presented an appearance such as is figured here. I have here also drawings of the heart of the calf, and you perceive that the whole surface of it, and also the interior of the organ, is swarming with these little larvæ. Thus we reared in this calf many thousands of these parasites. Now observe—supposing we had sent that calf to market, what would have happened? Every individual who partook of the veal, and who did not in cooking raise the temperature to 145, would undoubtedly have been liable to have had developed in his interior the adult form of this particular parasite. How do we know that? We have experimental proof in various ways. A gentleman in India has lately had the courage to induce a Mohammedan boy to swallow some underdone meat of this description purposely, and the result was that the boy had the pleasure of playing the part of host to as many tape-worms as he had swallowed examples of this little cysticercus. I hold in my hand the largest specimen I have ever seen; it was brought from India, and was taken from meat served out to our troops there as rations. What happens when the measles are swallowed is this—the bladder-like part is immediately digested, but the head and upper part of the neck are not digested. These latter pass down from the stomach into the alimentary canal, and the head, by means of the suckers with which it is furnished, then adheres to the lining membrane of the alimentary canal. Then a process of budding

commences, and in three months the worm would be fully developed. Now you can not help observing that such astonishing phenomena as these are not the result of disease or accident; they constitute together the life cycle of a creature expressly organized to lead a parasitic mode of existence.

I have never yet heard of an English butcher who had ever seen one of these parasites; and yet I am in a position to say that at this moment at least 10,0000 persons in this country are playing the part of host to these creatures. Butchers are profoundly ignorant people in this respect. Then you will say, "How do the cattle get the parasites?" I will explain. Millions of these creatures pass from their human bearers every day in this country, with other things that are vile. You know that Shakspeare says, "Evil things do fastest propagate." These evil things make their way into the sewage, which it is now the fashion to spread over the land far and wide, and they are thus distributed in millions amongst the delightful verdure on which the cattle graze. The eggs are thus often taken into the mouths of animals along with the fodder. Every egg thus swallowed from fresh sewage becomes a measle, and every measle that is in the flesh of the animal goes to the market, is sold and eaten, and is afterwards converted into a tape-worm, provided the purchaser does not take the precaution of having the food properly cooked. Here is the value of reason. The animal does not thus reason; neither does it cook its food. To avoid these things you must simply have the food well cooked. Do not flatter yourselves that partial cooking will destroy them. A heat of 160 degrees will be perfectly sufficient, if prolonged, to kill even that disagreeable little creature, trichina spiralis. If the heat goes to boiling point, you are perfectly safe; but you know that it takes a long time for a joint to become heated to 212 degrees in the inside. Therefore the rule is prolonged cooking, and then 140 degrees are sufficient to prevent infection from cysticercus, and 160 degrees for trichina, from which latter there is more danger, seeing that they are enclosed in little protective capsules. Allow me tos ay one or two words

by way of encouragement. In this country we have only once had an outbreak of trichina disease, and that was in Cumberland, and quite lately. Abroad this subject excites much more attention, because the habits of the people favor the development of the disease.—*The Druggists' Cir. and Chem. Gazette.*

ART. II.—RECENT PROGRESS IN THE TREATMENT OF CHILDREN'S DISEASES. By D. H. HAYDEN, M. D.

Intestinal Catarrh of Children.—Dr. A. Monti,* instructor in the University of Vienna, makes the following recommendations for the treatment of infants affected with intestinal catarrh:

The best substitutes for the mother's breast, when this can not be obtained, are veal broth† and milk, Liebig's soup, Löflund's infant food,‡ Nestle's infant powder,§ fresh cow's milk according to the age of the child, given either pure or proportionally diluted, and condensed milk.

The author's experience is in favor of giving exclusively liquid food, and of avoiding the amylacea. In opposition to the advice of Vogel and others that milk should be entirely excluded from the diet of children affected with intestinal catarrh, if the trouble originated at the time of its use, the author, while admitting that good results are often obtained by stopping the milk for a few days in children over one year old, considers such abstinence in infants under three months of age injurious and a most frequent cause of collapse and death. When

* Wiener Medicinische Wochenschrift, 1875, i.

† This is prepared with half a pound of veal and three pints of water boiled down to a pint and a half.

‡ Löflund's infant food is essentially the same thing as Liebig's food, but in the more convenient and concentrated form of an extract. The extract is prepared for use by dissolving it in warm milk.

§ Nestle's infant powder, prepared after the idea of Liebig, contains also a good Swiss milk in the form of a concentrated and dry powder. It is made ready for use by stirring up with cold water, and then boiling for a few minutes.

after weaning there comes on an intestinal catarrh ushered in with violent symptoms, or when the disease lasts a long time, and, notwithstanding proper dietetic and medical treatment, shows no signs of improvement, where the circumstances admit, the child must be returned to the breast. This is especially necessary when the child is under five months of age, and in the summer months. Where the cause of the trouble is due to the indigestibility of the cow's milk, this should be diluted with veal broth in the proportion of one part of milk and two parts of veal broth, for children under three weeks old; for children from one to two months old, cow's milk and veal broth in equal parts; for children from two to three months old, two parts of cow's milk and one part of veal broth.

The author has in many cases substituted condensed milk with advantage, using the following proportions: For newborns, one part of condensed milk and fifteen parts of water; for children from two to four weeks old, one part of condensed milk and fourteen parts of water; for children from one to three months old, one part of condensed milk and thirteen parts of water; for children from three to five months old, one part of condensed milk and twelve parts of water; for children from five to ten months old, one part of condensed milk and ten parts of water.

With older children (from eight months up to two years old) affected with chronic intestinal catarrh, when the disease is not benefited by withdrawing the milk for a few days, the author gives pure lukewarm milk, either as the exclusive diet or in connection with raw meat, and with surprisingly good results. He begins with a pint of lukewarm milk for the day, giving in addition water gruel and raw meat. When this is well tolerated, he increases the milk gradually to a pint and a half, and then to two pints. With this treatment the author has repeatedly seen infants who were previously reduced to skeletons, within from eight to ten days not only cured of the intestinal catarrh but also increase a pound in weight.

In cases where neither veal broth and milk nor condensed

milk nor lukewarm milk, pure or properly diluted, causes an improvement of the intestinal catarrh, the author resorts always to a wet nurse. When this is not possible, one of the following substitutes is to be tried: Liebig's food (or one of its surrogates, as Löflund's infant food), given as exclusive diet, frequently produced successful results with children over five month's old. The use of Nestle's infant powder was often equally successful, though with very young infants this is frequently not well tolerated. Cocoa and acorn coffee agreed often with infants over three months old, but only when used in connection with one of the above kinds of food. The acorn coffee is particularly advantageous for rhachitic and scrofulous children. For infants under a year old, it is given according to their age, either with equal parts of milk or with one part of acorn coffee to two or three parts of milk. Of cocoa the author has generally employed the powdered seeds, free from oil. When the child is over one year old, the cocoa or acorn coffee is prepared by boiling in pure milk.

As to the food that will agree best, this depends in a great measure upon the idiosyncrasy of the little patient; and when under one form of nourishment the intestinal catarrh does not rapidly improve, a change must be made to another, which may prove more suitable.

With infants between eight months and two years, the author often uses wine, preferring red wine, and giving from one to two tablespoonfuls daily.

If collapse should suddenly set in in acute entero-catarrh, lukewarm bran baths once or twice daily should be used. These were often used, too, in cases of chronic intestinal catarrh where the skin became dry and scaly, in order to excite the metamorphosis of tissue and the circulation. Where the children were anæmic, baths containing iron or rock-salt or common sea salt were employed with good results.

The medical treatment employed by Monti is as follows:*

* The prescriptions are given according to the metric system, the unit, one gramme, being equivalent to about sixteen grains.

In cases of simple entero-catarrh, for new-borns from three to six weeks old: ℞.—Tincturæ opii,† gtt. j.; misturæ gummosæ, 100,0. Teaspoonful every two or three hours.

For sucklings up to seven or eight months: ℞.—Tincturæ opii, gtt. j.; misturæ gummosæ, 70,0.

For infants from eight to fifteen months old: ℞.—Tincturæ opii, gtt. ij.; misturæ gummosæ, 70,0.

According to Monti's experience, tincture of opium should never be used when infants have been prematurely born, when very anæmic and run down, when affected with chronic hydrocephalus, or when there is a complication of bronchitis or pneumonia; for in such cases toxical effects are easily produced. On account of the different degrees of susceptibility to opium in infants, the author recommends to begin always with the above small doses and not to increase the dose until the first dose has proved to be of no effect. The parents must also be instructed to stop the medicine as soon as any long-continued drowsiness shows itself.

Of Dover's powder the author gives children under three months old 0.07 in from eight to twelve doses; when from three months to one year old, 0.07 in six doses; when two years old, 0.14 in six doses.

If with the catarrh there should be symptoms of dyspepsia, as vomiting and acid stools, the author combines with the opium an alkali, as: ℞.—Pulveris Doveri, 0,07; pulveris oculi cancrorum, 2,00; sacchari albi, 3,00. Ft. pulv. et div. in part. No. viij. D. S. One powder every two hours.

Or: ℞.—Sodæ bicarbonatis, 0,60. aquæ fontanæ, 70,00; tincturæ opii, gtt. j.; syrupi simplicis, 12,00. D. S. Teaspoonful every two hours.

When there is no vomiting, and undigested caseine is present in the stools, the author has obtained good results with paullinia and subnitrite of bismuth. For the former he writes as follows: ℞.—Paulliniæ, 0,80; pulveris Doveri, 0,07; sacchari

† Tinctura opii of the Austrian Pharmacopœia is one third stronger than that of the United States Dispensatory.

albi, 3,00. M. Ft. pulv. et div. in part. No. vj. D. S. One powder every two hours.

Where there is no dyspepsia the author uses astringents: ℞.—Tincturæ krameriæ, gtt. xx.; tincturæ opii, gtt. j.; aquæ fontanæ, 70,00; syrupi simplicis, 12,00. D. S. Teaspoonful every two hours.

Or: ℞.—Acidi tannici, 0,30; pulveris Doveri, 0,07; sacchari albi, 3,00. M. Div. in part. No. vj. D. S. One powder every two hours.

When the intestinal catarrh is complicated with an acute gastric catarrh, and there is vomiting, the author gives an acid in combination with opium or a small dose of rhubarb: ℞.—Acidi muriatici diluti, gtt. ij–iij.; syrupi simplicis, 12; aquæ destillatæ, 70,00; tincturæ opii, gtt. j–ij. D. S. Teaspoonful every two or three hours.

Or: ℞.—Pulveris rhei, pulveris Doveri, āā 0,07; sacchari albi, 3,00. Ft. pulv. et div. in part. No. vj. D. S. One every one or two hours.

When with the acute or chronic intestinal catarrh there is also a chronic gastric catarrh (loss of appetite, eructations, hiccough, coated tongue, and offensive breath), the author gives sulphate of zinc, colombo, rhubarb, the latter especially where the stools are colorless. Thus the author prescribes for children under one year of age: ℞.—Zinci sulphatis, 0,07; aquæ destillatæ, 70,00; tincturæ opii, gtt. j.; Syrupi simplicis, 12,00. M. D. S. Dessertspoonful four or five times daily.

Or: ℞.—Pulveris rhei, 0,20–0,40; pulveris Doveri, 0,07–0,14; sacchari albi, 3,00. M. Ft. pulv. et div. in part. No. vj–viij. D. S. Four to six powders daily.

Or: ℞.—Decocti radicis calumbæ, 70,00; tincturæ opii simp., gts. ij.; syrupi simplicis, 12,00. M. D. S. Teaspoonful every two hours.

When with the intestinal catarrh there is a complication of a light bronchial catarrh, the author gives an infusion of ipecac with small doses of opium.

In chronic intestinal catarrh experience has convinced the

author that not much can be effected by medicine. For anæmic children, on the contrary, iron often effects wonderful results; yet even of this medicine he cautions against giving too large doses. The preparations most commonly used by him are: ℞.—Ferri carbonatis saccharatis, pulveris Doveri, āā 0.07; sacchari albi, 3,00. M. Ft. pulv. et div. in part. No. vj. D. S. Two to four powders daily.

Or: ℞.—Ferri oxydati dialysati,* gtt. x.; aquæ fontanæ, 100,00; aquæ menthæ, syrupi simplicis, āā 6,00. D. S. Four to six dessertspoonfuls daily.

Or: ℞.—Liquoris ferri perchloridi, gtt. vj.; misturæ gummosæ, 100,00; syrupi corticis aurantii, 12,00. D. S. Three to four dessertspoonfuls daily.

The author never employs clysters in catarrh of the small intestines. For the relief of colic and to quiet excessive peristaltic action in acute intestinal catarrh, Priessnitz's water dressings over the bowels do good service. In chronic cases, when meteorismus is excessive, cold water dressings frequently changed are useful.

Cases of Erysipelas Migrans with Recovery in an Infant four Weeks Old.—Dr. Christian Lutz† reports the case as follows: The mother of the child died of puerperal fever. The disease began on the right side of the scrotum, starting from an abscess of the size of a hazel-nut, caused probably by an intertrigo. The disease invaded first the anterior and lateral portions of the right hip, extending gradually down the thigh, leg, and foot. Later it made its appearance upon the right shoulder, and wandered downwards over the forearm and hand. It then reäppeared (the sixteenth day of the disease) upon the right hip; it remained stationary here for some time, and then crossed over to the left hip, where it again became stationary. It then (from the nineteenth to the twenty-second day) extended down the left lower extremity, and on the twenty-third day ap-

* A German preparation consisting of liquor ferri perchloridi, and holding an excess of hydrated sesquioxide in solution.

† Deutsches Archiv für Klinische Medicin, August 14, 1874.

peared upon the back, advanced toward the left shoulder, remained stationary until the twenty-sixth day, and then extended down the left arm. On the thirty-first day, the erysipelas was confined to the back and fingers of the left hand, and all fever had ceased. On the thirty-second day the erysipelas had entirely disappeared, having lasted one month. During the course of the disease, there was a large abscess opened in the right thigh, one smaller one in the right calf, one over the internal malleolus, two over the back of the foot, and one over the patella.

The special treatment consisted of baths, which were begun on the fourth day of the disease, the temperature on this day, taken in the rectum, being 104°. The baths were given three times in a day and once in the night, at a temparature of 95° F., cooled down to 81.5°–84°, sometimes only to 86°. Their duration was from five to seven minutes.

The local treatment previous to this had been simply inunction of lard and covering the parts with cotton-batting. In place of this, on the sixth day, carbolic acid with sweet oil (one part to twenty-five, later one part to ten) was substituted.

The nourishment consisted of diluted milk and malt extract, with occasionally a few drops of port wine. When the temperature reached a very high grade, four to five grains of quinine were administered, divided into three powders, and given in rapid succession.

The temperature as a rule was high throughout the whole course of the disease, varying from 101.5° to 104°. On the few exceptional days when the temperature was below 100.5°, the baths were stopped, and the ordinary warm baths given.

The bilious diarrhœa, which according to Widerhofer* shows itself in the erysipelas of new-borns, whether the disease be of pyæmic or local origin (in the former case at the beginning, in the latter at a later stage), did not exist in the present case. The patient became very much emaciated, but appetite and digestion continued good.

* Jahrbuch für Kinderheilkunde, vi. 1.

In an infant four weeks old, for whom under normal conditions the external application of considerable warmth is required, these cooling baths must exercise a powerful effect. The high fever nevertheless was looked upon as a sufficient indication for them, and their effect was always to lower the temperature 1.75°–2.5° for four or five hours. When taken out of the bath the child shivered violently; once it had a long hiccoughing attack; once also it had opisthotonos. This lasted, however, but a short time, and did not recur; but it was regarded as a warning not to reduce the temperature of the baths any more.

The recovery of the patient shows that youngest infants can be subjected to the antipyrectic treatment of cool baths with good results.

The local treatment with carbolic oil had an unmistakably favorable influence upon the course of the disease. The surfaces were freed earlier of the eruption, the erysipelas did not reach such a degree of intensity, and after its employment was begun there were no more abscesses formed. It did not, however, prevent the extension of the erysipelas. The carbolic oil, of the strength of 1:10, is scarcely at all painful, and the author is in the habit of using it for intertrigo in children with good results.

Quinine in the Treatment of Children's Diseases, especially in Fevers and in Whooping Cough.—Dr. Rapmund,* from large experience in country practice, gives to quinine a decided preference over the use of cold water as an antipyrectic, for the reason that the use of the latter can not so well be controlled, and because internal remedies are less objected to by the laity than others. The author's experience with quinine as an antipyrectic and tonic corroborates fully the favorable statements of Dr. Hagenbach upon this subject.† It has been employed by him in cases of scarlatina, measles, varioloid, erysipelas migrans, lobular pneumonia, and follicular enteritis. In the first three classes of disease the treatment was resorted to only in severe

* Deutsche Klinik. Schmidt's Jahrbücher, No. 3, 1875.

† Boston Medical and Surgical Journal, Feb. 6, 1873, page 132.

cases; for in light cases in country practice medical assistance is not called in. In the above cases quinine worked too as a hypnotic (Jürgensen), and convalescence was rapid.

In erysipelas migrans, Vogel has already recommended quinine as the only remedy acting favorably in the few cases of recovery seen by him.

The result in lobular pneumonia was a particularly favorable one, in nine cases between four months and eighteen months of age only two dying. This is explained by the author as due to the fact that in fatal cases the cause of death is an insufficient action of the heart, occasioned by the high fever. The remedy must be used without intermission; but when cyanosis has set in, it is too late. Dyspnœa is also relieved by this remedy. At the same time as much nourishment as possible must be given—milk, meat broths, or wine. In enteritis folliculosa, where there was high fever, this remedy did good service, acting also as a tonic. In whooping-cough, quinine produces a decided diminution in the number of attacks and in their severity.*

In the author's cases thus treated there were no complications nor sequelæ, except where these had already made their appearance before the administration of the remedy; and they moreover were shortened in their duration or removed by the remedy.

The author always gives quiniæ muriat in solution, 0.05–0.1 gramme once or twice daily in glycerin and water, equal parts. The medicine is given in black coffee. When not tolerated by the stomach, it was given in double the dose by the rectum. The syringe in such case should not hold more than an ounce or an ounce and a half of fluid.—*Boston Med. and Surg. Jour.*

* Boston Medical and Surgical Journal, August 4, 1373, page 133, and February 6, 1873.

ANALYTICAL DEPARTMENT.

"Qui e nuce nucleum esse vult, frangit nucem."—PLAUTUS.

"*Come out of that Hat.*"—Such was the soldier's greeting to his companion, who had just made himself comfortable with a new hat. The civilian may now use the old camp-fire expression.

The following case ("British Medical Journal") is of considerable interest: A man wore a new felt hat for one day, and, though it did not press on his head, he had severe headache. An eruption appeared, attended with swelling of his forehead, proceeding in some parts to suppuration. The eyes also became inflamed and almost closed, and the swelling extended more or less over the whole face. A chemist found on examination that the brown leather lining was colored with an aniline dye containing poison.

Ergot—Mode by which it Destroys Uterine Fibroid.—Dr. W. H. Byford concludes an elaborate paper upon the treatment of uterine fibroid with ergot, by the following statements:

(1) It is gradually disintegrated and absorbed. In this way it disappears without any violent or disagreable symptoms.

(2) Its nutrition is so interrupted as to produce a rapid destruction of its vitality, and hence decomposition within the capsule, and a semi-putrid mass expelled. This process is accompanied with evidences of inflammation of the uterus and toxæmia, more or less grave, according to the size of the tumor, the length of time between the commencement of decomposition and the expulsion of the tumor, and the vital resistance of the patient.—*Med. Examiner.*

Preparation of Ergot.—Dr. Wernich points out the disadvantages of the ergot preparations used for subcutaneous injection, and describes a preparation free from these disadvantages.

This preparation is made as follows: Powdered ergot is first deprived of all fatty matter by ether, and then treated with

alcohol. A watery extract is then made of the powder so prepared.

Lastly, this extract is further purified by diffusion through parchment paper. It then forms a perfectly clear solution in water, of a brown color. This preparation he proved by experiment to have all the ordinary properties of ergot, and in consequence of its purity, is preferable for subcutaneous injection. It keeps well, and does not produce pain.—*All. Med. Cent.*—*Brit. Med. Jour.*

Atrophy of Testicles following the Use of Large Doses of Iodide of Potassium.—Dr. J. Lomon reports the following observation: A man, aged twenty-seven, suffered from various manifestations of syphilis, among others orchitis and pharyngeal ulcerations. Under the influence of medication, by iodide of potassium and mercury, all signs of disease disappeared. A year later, on the reäppearance of the disease, the patient dosed himself with large doses of iodide. The ulcers disappeared, but a year later he presented himself to the Doctor for an examination of his testicles. The right, on inspection, was found to have disappeared, the left was about the size of an almond. Coition was accompanied by pain, erection taking place slowly, and lasting a long time. No emission of semen took place.—*Amer. Jour. Syph. and Dermatology*—*Gaz. Med. de Paris.*

A New Test for Waxy Degeneration.—At a late meeting of the Société de Biologie ("Gaz. Hebdomadaire") M. Cornil exhibited some beautiful preparations of different organs affected with amyloid degeneration, in which the non-infiltrated elements were colored blue whilst the amyloid infiltration was colored deep red, by the application of violet de Paris or violet of methylaniline, marked No. 350, N of Poirer. By the aid of this new test, M. Cornil has been enabled to study the alterations of the kidney, liver and spleen, much more easily than by the other reäction.—*Mon. Abs. Med. Scie.*

Nitrous Oxide in Tuberculosis.—Dr. C. W. Larison ("Cincinnati Medical News") reports a case of miliary tuberculosis, in which, after the failure of all ordinary remedies, nitrous oxide was used with most desirable results. Improvement was very slight at first, but steadily increased until complete recovery resulted. Cutaneous circulation resumed its vigor, muscles performed their functions with greater precision, the pulse became stronger and less frequent, appetite became voracious, weight increased, etc. The amount of gas taken was about five gallons a day, at intervals.—*Det. Rev. of Med. and Phar.*

Electricity in the Asphyxia of New-Born Infants.—Dr. Zaunschirm ("Medicinish-Chirurgisches Centralblatt") reports a case, where, failing to resuscitate an infant after delivery by the forceps, by the usual methods, he bethought himself to apply electricity. Having obtained an induction instrument, he applied a feeble current, gradually increasing in strength, principally to the sympathetic nerve. With the first application of the pole, inspiration was produced; one pole was then applied partly to the larynx and partly to the neighborhood of the neck; the second pole to the thorax. Soon the heart's action became stronger and more rhythmical, and the breathing changed and more natural. By the end of ten minutes, the child was completely resuscitated. He strongly recommends the adoption of this method in cases of severe asphyxia. —*Lon. Med. Rec.*

Reasons for and against Transfusion in Acute and Chronic Diseases.—Billroth ("Weiner Med. Woch.") has arrived at the following conclusions regarding transfusion: In acute anæmia, injection of human blood may be justified in a case of the most urgent need, although hitherto it has seldom been used under such conditions; there are no other satisfactory indications for it, either theoretical or empirical. He regards it as still undecided whether human blood is to be used to the exclusion of the blood of other animals. When it is designed to substitute

healthy for diseased blood, as in cases of septicæmia, there is no reason, or any theory, to look for a favorable effect from the introduction of new blood, which, at best, is comparatively small in amount. Even supposing it possible to renew all the blood in the system, the success of the operation would hinge upon the assumption that the putrid poison was present in the blood only, which is neither proved nor yet probable. He is also decidedly opposed to the view that there are either theoretical or practical reasons to expect anything at all from transfusion in chronic diseases.

In this connection some recent experiments of Landois are of interest:

It seems to be established that the blood corpuscles of animals, when introduced into the blood of another animal, are dissolved, with the result of forming coägula in the interior of the circulatory system, and to this phenomenon Landois is inclined to attribute all the symptoms noticed subsequent to those immediately following the transfusion, and attributable to the plugging up of the capillaries and small vessels. Sometimes, too, this plugging of the capillaries is due to these blood corpuscles collecting together in masses before dissolving, the evidences of which consist in stases, extravasations, and sero-sanguineous effusions found on section of animals treated by transfusion. The corresponding symptoms during life are dyspnœa, increased peristalsis, vomiting, the occurrence of hæmoglobin and albumen in the urine, and the decrease of urea; coldness of the skin and the formation of an exanthem resembling urticaria; rigidity and contraction of the muscles; irritation succeeded by depression of the nervous system, and capillary hæmorrhage from womb.

He concludes, then, that the transfusion of animal blood in chronic disease can not exert the favorable effects reported, because of the renewed functional activity in the foreign blood corpuscles, for these are dissolved; such good effects, if they occur, are rather due to stimulation of the organism, as by an alterative.—*Med. Record.*

CLINICAL RECORDS.

"Ex principiis, nascitur probabilitas: ex factis, vero veritas."

ART. I.—HISTORY OF TWO CASES OF RETROVERSION OF THE WOMB. By IRA R. WELLS, M. D., Genesee, Illinois.

April 16, 1866, Dr. H——, an eclectic physician, and shoemaker by trade, called at my office to consult me in relation to a patient he was treating for what he supposed to be ovarian tumor. According to his ideas the tumor had fallen down between the vagina and rectum, and was pressing on the neck of the bladder and rectum so that the patient could neither pass water nor evacuate the bowels. From his description of the case, I came to the conclusion that it was a case of retroversion of the womb. By his request, I went with him to see the patient, and obtained the following history of the case: Mrs. W., aged thirty-two, the mother of three children, three weeks previous, before her usual time of arising, one morning felt a slight inclination to evacuate the bladder, but concluded to delay the matter until getting up for the day, and fell asleep again, taking a long nap. On arising in the morning she was unable to pass any water, and was in considerable pain, consequently Dr. P., one of our regulars of many years' practice, was sent for, and, without examination, prescribed spts. nitre in teaspoonful doses every three hours, and injections to move the bowels. This treatment he continued for one week without any relief to his patient, and was consequently discharged. The patient in the meantime found that she could pass a very little water by pressing the tumor back with her finger—a very important discovery for her, as the sequel will show, as by this she undoubtedly saved the bladder from rupture. After Dr. P.'s discharge, Dr. B., Italian botanic physician, was called, and pronounced the woman in labor, and said she would soon be delivered of a child. He followed his botanic course of treatment for two weeks without any relief to the patient, when Dr. H. was called, as above stated. He made the discovery that the woman could not pass water, and that she had a tumor

in the vagina, which was pressing on the bladder and rectum.

On my arrival, I found the woman in a deplorable condition. Ineffectual efforts to evacuate the bowels with injections and purgatives had been made for three weeks, the stomach and bowels becoming so distended and tender that it was almost impossible to examine or touch her in any place. On applying my hand to the abdomen, I found the bladder distended to its utmost capacity. I asked the Doctor what tumor that was there. He replied he had not discovered any tumor. I told him if he would reach me a catheter, I thought I could soon remove it. I then passed the catheter into the bladder and drew off two quarts of decomposed blood and urine in a terribly fetid condition, so much so that our eclectic brother's delicate nerves could not stand the shock, and he was led from the room in a fainting condition. After the bladder was evacuated, I proceeded to examine this wonderful tumor, and found that it was the womb lying across the vagina. The cervix was wedged firmly against the neck of the bladder, and the fundus against the rectum, so that it was impossible for her either to pass water or evacuate the bowels, and the vagina and rectum had become so inflamed that it was impossible to introduce the hand far enough to reduce the womb to its natural position. I now informed the Doctor that all we could do for the present was to keep the urine well drawn off, and make use of soothing fomentations to reduce the inflammation of the part. He now retired from the case, and I commenced treating the patient by drawing the water every few hours and applying warm fomentations. There was considerable hæmorrhage from the bladder, caused by the rupture of some of its blood vessels by the extreme distension it had been subjected to.

On the third day I thought the inflammation had sufficiently subsided to make the effort to reduce the womb to its natural position. Dr. C. Truesdale, of Rock Island, was called in as counsel. We proceeded to put the patient under the influence of chloroform, with the patient on her back; and the Doctor endeavored, by introducing the hand into the vagina, to raise

the fundus and bring down the cervix, but after a long and protracted effort gave it up. I immediately followed him with a like protracted effort and with like success. We were much discouraged with our efforts, and concluded that it was a hopeless case. The Doctor was of the opinion that the bladder was already ruptured. We now left her for the night, the Doctor returning to Rock Island. Before separating, we agreed to put her under the influence of opium.

On visiting my patient in the morning, I found that she had passed a comparatively comfortable night. I was not satisfied to abandon the case without another effort to save my patient. I accordingly, without the use of chloroform, with the assistance of her husband, caused the patient to kneel in bed on some pillows, thereby elevating the pelvis and lowering the head as much as possible. I now made an effort at reduction by introducing my hand into the rectum and pushing the fundus forward and upward, and finally succeeded in raising the fundus above the pelvic cavity, thereby bringing the cervix into its natural position. I then confined the patient on her back for one week, not allowing her to arise for any purpose whatever. The bowels readily moved themselves as soon as the obstruction was removed, and we had no more trouble in evacuating the bladder, it gradually regaining its healthy action and the hæmorrhage gradually subsiding. She proved to be in the third month of pregnancy, and went to full term, giving birth to a full-grown child.

Case second was, in many respects, similar to the one already given, but more aggravated, if possible, than the first. On May 25, 1869, I was requested to visit Mrs. C., fifteen miles distant, who had been under treatment for three weeks for some complicated difficulty of the urinary organs, and had been attended by two regular graduates of some of our western medical schools. On my arrival, I found the woman in the following condition: She had not been able to micturate for three weeks, except as the water was drawn with the catheter, which had been regularly done up to the last week

of her illness. The cervix uteri had by this time become so firmly wedged against the neck of the bladder that the attending physicians could no longer introduce a catheter, consequently no water had passed for a week. They being able to do nothing more for her, abandoned her to her fate. She had become anasarcous from her head to the end of her toes, the effused fluid penetrating all of the cellular tissues of the body. The abdomen was distended to its utmost capacity; she was compelled to remain in a sitting posture day and night, for she could not breathe in a recumbent position. Her bowels had not moved during her illness. On making a vaginal examination, I found the womb in all respects situated as in case first, with this exception; the cervix was higher up and the fundus lower down, filling the entire vaginal cavity in such a manner that it was impossible to pass the catheter, and consequently I was compelled to make the effort to reduce the womb without evacuating the bladder. It seemed to me to be very doubtful if this could be done, with the bladder distended as it was, continually pressing on the fundns of the womb; but this appeared to be the only remaining hope for the relief of my patient, and I made the effort by placing her on the left side in bed with the hips well elevated by pillows. She was then chloroformed, and I introduced my hand into the rectum, pushing the fundus of the womb upwards and forwards, and soon had the satisfaction of feeling the fundus ascending into the abdomen above the pelvic cavity, and the cervix descending to its proper position in the pelvis; I then introduced the catheter without difficulty, and drew off, incredible as it may appear, *six quarts* of urine. I had never supposed it possible that the bladder could contain so large a quantity. She was then placed in the bed on her back, with hips still elevated, with instructions that she must not leave the bed for ten days. The swelling rapidly disappeared from the abdomen and extremities, and she had no more difficulty in passing water, or evacuating the bowels, while in the recumbent position.

On the 6th day she concluded that she was, in all respects,

well, and left her bed and walked about the house most of the day. The result of this was that the womb tipped over again, and the next morning she found that she could not micturate or evacuate the bowels. I was again called to the case, and had to proceed as before stated in reducing the womb to its natural position. This was readily done, as it had not become so firmly impacted in the vagina as before. I then left, with strong injunctions to remain in bed for ten days. On the fourth day labor pains came on, and in a few hours a three months' fœtus was expelled with slight hæmorrhage.

From this time forward she had a good recovery without further danger from retroversion of the womb. She has since borne children without any accident.

Reflections on the foregoing Cases.—First, fortunately for the female sex retroversion of the womb can not be a very common occurrence. Secondly, when it does occur, it is not recognized by many engaged in the practice of medicine until considerable suffering and danger is passed through by the patient. Thirdly, as a general thing, it occurs about the third month of pregnancy, and rarely, if ever, occurs at any other time, and is caused by not attending to the calls of Nature in evacuating the bladder before it becomes distended sufficiently to press on the fundus of the womb, and by its weight tips the womb over, producing what is called retroversion. Fourthly, physicians can not be too cautious when called to see married ladies, where there is any urinary difficulty in finding out its cause before prescribing for the case.

ART. II.—REPORT OF A CASE OF PUDENDAL HERNIA. Read before the Central Kentucky Medical Association July 21, 1875, by C. H. SPILMAN, M. D., Harrodsburg, Ky.

In the latter part of May, 1875, Mrs. F. A. S., being enciente for the first time and approaching her full period, became badly frightened and sickened as a consequence. A

few days subsequently, her breasts, which had been plump, full, and elastic, became small, soft, and flaccid, with additional indications of the death of the fœtus.

About 9 o'clock on the night of the 7th of June, I was called to her in great haste to what was supposed to be active labor. I thought, on entering her room, from her complaints and general commotion, that she was making rapid progress. An examination, however, revealed a different aspect of the case, for the os was not dilated, the soft parts were extremely rigid, and there were no perceptible expulsive efforts on the part of the organ. Finding the bowels constipated, I prescribed a dose of castor oil and left her.

June 8th, 9 *A. M.*—The oil operated twice, the bladder fully evacuated, the pains persistent, but the os is still closed, and no bearing down perceptible. She is becoming impatient, and so am I. I phlebotomized her to the extent of twenty ounces, for which I deem the pulse and constitutional rigidity a sufficient warrant, gave one-third of a grain of morphine and left her.

3 *P. M.*—The pains have evidently increased, but more satisfactory and reässuring to her, no less than to myself, as she feels them to be more efficient and bearing down, corroborated by the condition of the os, which has now attained the dimensions of an eagle coin. I introduce the catheter to clear the bladder. I now remain with my patient, whose labor is heavy and painful, until 10 o'clock, when she gives birth to a lifeless child of large size. While my attention is directed to the child, and before time is allowed to separate and dispose of it, the placenta is spontaneously expelled during a hard pain. I am now confronted by phenomena strange and somewhat embarrassing. My patient having a succession of straining, bearing-down pains, accompanied each by a convulsive cough, with an expression of wild alarm, exclaims, "Doctor, what is the matter with me?" I immediately lay my hand on the vulva and find a firm, elastic tumor in the left labium as large as my fist, completely filling the vagina. Recognizing it as a case of pudendal hernia, I make gentle and gradually increasing press-

ure, with a view to its reduction. The constant straining and heavy bearing down, however, oppose an insuperable barrier. I throw under the skin one-half grain of morphine. In twenty minutes, relaxation and a more quiet state exists, when the taxis is renewed and a reduction effected. A T bandage and compress, as well adjusted as may be, are applied, and I take a breathing spell.

June 9th, 10 *A. M.*—Rested well last night, and says she is comfortable this morning, but did not sleep. No urine having yet passed, the catheter is used. To be assured the canal of Nuck is clear, I pass my finger to the vaginal cul-de-sac, which is satisfactory. There is some tenderness in the site of the rupture, reflected upon the left hip, with slight disability of that limb. Pulse 90; temperature 100; some irritative fever. Give fifteen grains chloral hydrate, to be repeated to-night if restless, and a dose of castor oil in the morning if the bowels have not been moved.

On the evening of the 10th there was some encephalic pain, which became intense on the 11th, continuing without abatement for six consecutive days, simulating somewhat a mild form of phrenitis, with simultaneous subsidence of the pelvic trouble. This pain gradually passed off, and she made a slow but permanent recovery.

In a practice of forty-three years, and a record of about 4,000 accouchements, this is the first case of the kind I have met with, and I suppose it is a very rare occurrence.

On review, the phenomena attending this case have seemed to be highly instructive, and if properly interpreted, throw a flood of light on many pathological problems which have, in no small degree, perplexed the medical mind. It would not comport with the circumscribed limits of this report to undertake an elucidation of the subject, were I capable; nor will I attempt more than a simple statement of the principles these phenomena clearly reveal.

Whether this hernia coëxisted with pregnancy in an appreciable degree, sufficient, however, to form a mechanical impedi-

ment to labor, and account for its provoking tardiness and inefficiency in its early stage, I do not know. It had made no perceptible encroachment on the vaginal space.

While we may not fully comprehend the anatomical medium through which the reciprocity is maintained, the consentaneous action of the vital functions through a development of the laws of sympathy, is placed beyond all controversy in this case. The incidental disturbance of the respiratory functions immediately upon the accession of hernia, and its no less prompt subsidence upon its reduction, admit of no other interpretation. Why the parts involved in the rupture should be the point of departure, and the lungs that of incidence, I do not know. That the cerebral trouble which follows was also an incidental malady resulting from sympathy of the brain with the irritated organs below, I have as little doubt. This conviction is strengthened by the fact that she had been for some years an extreme sufferer from cephalagia, which was well calculated to produce in the encephalon an excessive perceptibility of distant irritations, according to a well known law of organic life, that the susceptibility of a part to receive impressions, whether direct or reflex, is in the ratio of its irritability.

The reflected action in these two erratic morbid processes, one upon the organic properties of the respiratory hemisphere, the other upon those of the nervous centres falling respectively upon parts highly susceptible from exalted irritability, would, by a law of sympathy, correspond in kind with the primary impression. Just so, to the letter, do we find here.

In the former case, the action is distinctly paroxysmal, responsive to the parturient function; in the latter, it is continuous, the action of the uterus and its tributaries having now become calm and uniform.

ORIGINAL CORRESPONDENCE.

"Sit mihi Fas scribere audita."

CANTON, CHINA, January 27.

My Dear Jeremy:

Who would have imagined fifteen years ago that I would ever have been quietly sitting down in this wonderful city to-day? When a youngster, studying my geography, how well I remember with what doubt I used to look on all these places, feeling perfectly sure at times that the books must be wrong, and that the names were only imaginary, and simply intended to make boys work and keep them out of mischief; vici, veni, vidi. I have been in Canton nearly a week, and busily engaged sight-seeing. The "Hartford" is at Whampoa, some twelve miles below; her draft was such as to prevent her coming up to the city. I will be ready to return on board to-morrow; but as I have a little time to myself, I will occupy it in having a little chat with you, telling you of the strange and wonderful things I have seen within the last six days.

Commercially, in wealth, and in education, Canton is the metropolis of China. On reaching the city last Friday, I repaired immediately to the Canton Hotel (a most miserable apology for a public house, but the best in the town), and secured quarters. A guide was speedily secured, and I commenced my ramblings at once. I first called on the American Consul and paid my respects. The gentleman is a Southerner, about fifty-five years of age, and a most loquacious individual. I made a few inquiries about the place, but found that he gave me such exhaustive comments in the start, that I was deterred from continuing operations in that line. It was with difficulty, without appearing rude, that I finally succeeded in leaving the premises, and with a sigh of relief, I directed the guide to take me to the Honan Temple. This edifice was founded in A. D. 1600. The grounds contain some six acres, where plants and flowers are cultivated quite successfully and tastefully. Walking up the avenue, and passing two gateways, the first pavilion is reached, where are three large gilt images of Buddha. In the second pavilion is a seven-story pagoda. On both sides of the grounds are rooms for the priests.

In one of the buildings are several sacred pigs. Buddhists, if they follow out strictly the teachings of their faith (few, however, do), abstain from shedding blood or eating animal food of any kind. To illustrate the idea, they place these pigs within the sacred enclosure, feed them from the temple, and finally give them a decent burial after dying a natural death. It was such a comical sight to look at them; some were so fat and gouty, that their eyes were entirely closed, and moving about was accomplished with the greatest difficulty. Who says there is no heaven for pigs? In this same garden there is another building used for burning the bodies of defunct priests, and near by a mauseleum for their ashes.

I resorted next to the Medical Missionary Society's Hospital, under the superintendence of Dr. J. G. Kerr, a Buckeye, bye the bye, and a most interesting and obliging gentleman. He has lived in Canton over twenty years, speaks Chinese very fluently, and is perfectly "au fait" on Chinese matters, especially in and about the city. He seemed to take pleasure in showing me around the establishmeut. There are about fifty patients under treatment, all Chinese. The wards are capacious enough to accommodate 120 in-patients. On Tuesday and Friday of each week, out-patients are prescribed for regularly. Cataract and stone in the bladder seem to be the prevailing surgical disorders. Dr. Kerr operated for stone over 300 times in three years; and, I believe, oftener for cataract. While there I saw him operate on a boy eleven years of age, from whom he removed a stone an inch and a half in length, three-quarters of an inch in width, and one-half inch in thickness. The operation was performed carefully and dexterously. There were three operations for cataract, but in these he showed less skill and tact, and is evidently not up to the times in the recent improvements in regard to this branch of surgery. I was persuaded by the Doctor to discharge my guide, as he volunteered very kindly to take me under his charge. We first went to a pawn-shop, which, in Canton, is by no means as degraded a place as in New York or Cincinnati. Many poor people deposit here their winter clothes, valuables, etc., for safety. They pawn them in the spring and redeem them in the fall. The house generally consists of five or six stories, and consequently

towers prominently over the surrounding buildings, so that, by ascending on the roof, I had a good view of that part of the city. We then went to a Chinese furniture house, where I saw some beautiful hard-wood furniture. At first I thought it consisted of ebony, it looked so hard and massive, but was informed that it was a species of Siamese wood, used especially for this purpose. To a casual observer, it looks as hard as ivory, and admits of a high degree of polish. There was one circular table, in particular, that took my fancy. It had a fine marble centre, with a broad edge of this wood, the whole being elaborately and elegantly carved. The price was eighty-five dollars. The Consor House was our next stopping place. This at one time was the assembly hall of the guild of native merchants, who had the monopoly of foreign trade. Here all public affairs connected with foreigners and foreign trade were transacted previous to 1839. At present, however, it is not used for this purpose, as there is free intercourse between foreign and Chinese officials in commercial matters. There is nothing remarkable in the building itself, except its historical connection with the opening of the port of Canton, as above stated.

The next day, after eating an early breakfast, I proceeded on my tour of inspection. Having secured a sedan chair, I directed the head man to take me to the market. Here dogs, cats, and rats could be seen hung up on a string, in the same way as other animal substantials. It would be impossible to distinguish it from other meat were it not for certain parts of the animal being left covered, so as not to mistake its identity. As far as I can learn, rats and mice are considered quite a luxury, used as food for convalescents, and beyond the means of the poorer classes. Adjoining this was a Chinese restaurant, where a hash, made up of the above delicacies, was exhibited for my examination, and indulgence if desired. Suffice it to say, for your own peace of mind, that I excused myself in the most polite pigeon-English in my vocabulary; although, to tell you the truth, the odor emanating from the dish was by no means unpleasant.

I was afterwards particularly interested in one of the principal drug stores. It is a very extensive establishment, there being over two hundred men employed in the various departments.

Judging from the number of boxes and packages heaped up on the premises containing different substances, the variety of their medicines must be something fearful. Instead of using vials, they resort to hollow-wax spheres, which answer the purpose very well. It is strange to see in the midst of a nation far advanced in certain departments of science, how totally ignorant they are of the very elements of anatomy, surgery, and physiology. I am speaking of those who take up the healing art as a profession. They still believe and teach that air is contained in the blood vessels. The temple of the five hundred genii is one of the wealthiest in the city. Just imagine yourself entering a tremendously large hall with five hundred gods, somewhat larger than the average man, and in all sorts of attitudes, staring at you on all sides. Some are represented as sitting pensively; some seeming to yield to a fervent prayer; some spurning with uplifted hands, and others with fury in their countenances, as though the world was to be annihilated that very moment. In the centre of this hall are the three precious Buddhas towering above their compeers. All these deities are worshiped and prayed to according to the supposed wants and individual fancy of each deluded votary. I was greatly amused, and somewhat shocked at the same time, to notice one of these gods represented as a Portugese sailor. It appears that a few centuries ago a Portugese rendered some signal service to the Empire, and as a reward he was assigned a place among the divinities, although his "tout ensemble" impresses one everything but heavenward.

The Temple of Longevity engaged my attention afterwards. It consists of three pavilions; in the first are the three usual Buddhas; in the second a seven-story pagoda with seventy-nine images of Buddha in it; and in the third the figure of a laughing Buddha reclining. At the entrance of this temple a fair is held every morning for the sale of gods, stones, and other ornaments.

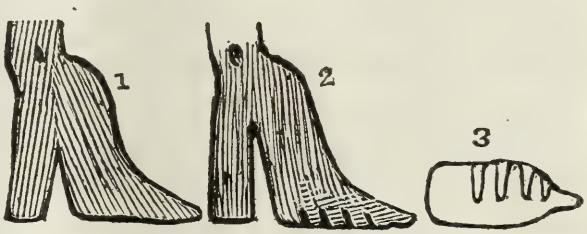
Next comes the Temple of the Five Genii. In the principal building five large gilt figures represent the five deities. It is recorded, according to a well-authenticated legend in this part of the world, that the five genii came to Canton riding through the air on five rams. These were afterwards turned into stones and

preserved in the temple. Hence the term City of Rams as synonymous with Canton. A bell weighing 10,000 pounds can be seen at the entrance of this building. A small notch was made in the rim by a cannon ball during the revolution of 1857.

I don't believe you have any idea what an opium-smoking saloon is. You enter a gloomy, dingy, and more or less darkened room, smelling almost exclusively of the fumes of opium; on either side of this long and bare apartment is a plain lounge running the whole length. This is about four feet in width, and stands nearly a foot and a half from the floor. It is covered with a straw mat, and over this, small, dirty oil-lamps are placed at a distance of some five feet from each other. Two men use one lamp, facing each other, with a wooden pillow supporting their heads, and lying directly across the lounge, more or less doubled up. The proprietor has a sort of a desk at the far end of the room, where he deals out his supply. On receipt, the customer repairs to one of the vacant places and commences the operation of filling his pipe. The modus operandi is by no means a simple one. He is provided with a wire, which he holds over the flame of the lamp until it gets pretty hot; he then entangles his lump of opium over the heated end, and afterwards passes the charged extremity frequently and rapidly over the flame, until the whole mass gets somewhat warmed up. The next thing consists in bringing the opium in contact with the bowl of the pipe, where, by means of the wire, it is subjected to a process of crushing and mashing. This is repeated over and over again, until the whole becomes perfectly homogeneous. This done, part of the opium is pressed down a small cavity on one side of the pipe, enough, however, remaining outside to form a hemisphere over this hole. Then the wire is boldly plunged directly through the ball of opium to the bottom of the cavity and immediately withdrawn. In this way the smoke is allowed to enter the stem. All this is gone through while in a recumbent position, as above stated. Everything being now ready, he holds the pipe so that the prepared mass shall constantly be in contact with the flame, and pulls away as though his life depended on it. From the foregoing, you will readily understand that it takes at least ten times as long to prepare the luxury as it does to revel in it—say ten to a little less

than one minute. In one of these saloons I saw about twenty sordid individuals more or less under the influence of the drug. A Chinaman takes as naturally to opium-smoking as some of our people to spirit-drinking; and I don't know that the former is to be more deprecated than the latter. Certain it is, as far as I can learn, that those who make use of this celestial boon are never troublesome or violent, although the subsequent reäction and depression is beyond description, according to all accounts, and more than compensates for the previous enjoyment.

Since my arrival on this station I often tried to see a small Chinese foot "puris naturalibus," as I would have expressed it as a sophomore, but seemed doomed to disappointment until three days ago. With the assistance of Dr. Kerr, I prevailed upon a pretty Chinese woman to remove the bandages and exhibit her nether extremities for a consideration. The foot is very much distorted, although not as repulsive as I had at first imagined. The arch of the foot, instead of representing a gentle curve, is pressed upwards so as to form an acute angle. The heel is driven forwards, so as to be nearly in contact with the ball of the great toe. A drawing of the appearances "in parvo" as seen by me is herewith appended, the merit of which you will not for a moment entertain, for you know my natural want of skill or taste in that respect.



In No. 1 you are supposed to look at the foot from the inside. You will notice how the arch has been forced up and the heel driven forward, so as to be nearly in contact with the ball of the great toe; an acute angle being thus formed by the contrivance. You will notice also how the bones of the instep have been pushed upwards and made to bulge out in front of the ankle. The ankle itself, as well as the lower part of the leg, is considerably atrophied, hardly exceeding in diameter the long heel. In No. 2 you have a view from the outside. It is very similar to the other side, with this exception, that you only notice the great toe as forming the tip of the foot, all the other toes being turned under the foot, so

that the ends of the four lesser toes lie in the median line of the sole of the foot, as seen in No. 3.

With some reluctance she finally consented to sell me the little shoes she was wearing at the time for the sum of twenty cents. I hope to have the pleasure of submitting them to your examination some of these days. These are exactly three inches long.

With Dr. Kerr as my guide, I repaired next to the jail, and made a cursory examination of the various convicts. It would be difficult to describe a more wretched, woe-be-gone set of people. Those committed for minor offences are crowded together in dingy apartments, with a pine-board collar about three inches in diameter adorning each individual neck. They wear these neck umbrellas night and day until the time allotted has expired; so you can imagine what a pleasant time sleeping they must have. The more serious offenders were confined in close, ill-ventilated cells, heavily chained, and looked as though their diet was of a very delicate nature. I proceeded afterwards to the court-room adjoining. A man was undergoing trial for smuggling; he was kneeling on the stone floor, his head slightly bent forward, and pleading his own cause. This, I understand, is the universal custom. The person arraigned is never allowed a counsel; every man has to be his own lawyer, no matter how ignorant or incompetent he may be for the task. The Judge has a prosecuting attorney, who seems to do most of the talking; now and then the presiding officer giving an opinion on a mooted question, or a course to be pursued. The policemen and soldiers, as well as all the spectators, stand on either side between the accused and the Judge. No one sits but the Judge—indeed, no seats of any description could be seen in the room. A little to one side of the scene was a poor fellow being tortured to induce him to confess to a murder for which he was indicted. I was told that he had undergone the same process on the previous day, being only released when his life seemed to be in imminent danger. As far as I can remember, he was placed in the following position: He had been made to kneel down on the stone pavement, so that his back touched very closely a vertical beam from the buttock to the neck, his queue being passed through a hole in the beam back of his head and secured on the opposite side. By this

means his body was prevented from falling forwards; his legs passing on either side of the beam below, were tied up by a string tied to each great toe and made fast about a foot above the floor to another vertical column directly behind, and his arms being turned backwards at right angles to his body, were secured to the same column by means of a small string drawn tightly around his thumbs. I can not conceive of a more cruel way of extorting truth (if such it be) from a fellow-mortal. While standing by him he attempted to speak, but he was so weak that he only moved his lips; he did not seem to have the power to articulate. The various instruments of torture, such as the bamboo, the many-tailed cat, plain ruler, etc., etc., were hastily passed in review, for I was heartily glad to leave the spot. Walking along, we came to the Catholic cathedral, built of solid white marble and most substantially, without regard to expense. The work is under the superintendence of the Jesuits, and is still in an unfinished state. When completed, it will be the finest building of the kind in China and Japan. The Examination Hall came next. Here a triennial examination is held in the months of September and October. To receive a diploma, one must have passed three of them successfully; so you see their period of study and application lasts about nine years. If a man fails, he is obliged to try it again, and continue doing so until he comes out victorious, or is debarred from physical defects. It is not an unusual sight to see father and son competing for the same degree. The examination is open to all, rich and poor, young and old, and he who would become a government official, must first have received his diploma from this Institution. The affair is conducted in the following manner: On the appointed day, some 5,000 candidates are admitted and placed in stalls, where they are closely looked after, so that no communication can be had with their neighbors. They all write on the same subject. They go in one morning and do not leave until the next day, a night being thus spent in this little room. I will not attempt describing the various buildings, it is too intricate to admit of such a thing. Judging from external appearances, everything is done in Canton that could be done to stimulate study and education, and those who are able to give an opinion, say that both men and women are highly educated, especially in their own history and antiquities.

This through, we proceeded to the Execution Ground. It consists of nothing but a miserable, dirty, oblong square, used as a drying plot for an adjoining pottery. When there is to be an execution, the authorities have to send down word so as to have it cleared off. On the day before our visit, two criminals had been beheaded (the paymaster of the ship and his clerk being present at the time). We saw the two pools of coägulated blood, and interviewed the chief executioner, who seemed to take pleasure in showing us around. It was with a smile both childlike and bland that he exhibited his instrument, which has already launched three hundred souls into eternity. It is a knife on a large scale, handle small and short, and blade eighteen inches in length and four in width, with a thickness of back of about three-quarters of an inch. I took it in my hands and examined it closely. It is very heavy and as sharp as a razor. There could not be anything better for the purpose. The paymaster stated subsequently, that with a single blow the head fell forward without a seeming jar.

And now, before concluding this lengthy, and I am afraid tiresome, letter, I must say a few words about the City Temple or Temple of Horrors. It is a place of great resort for worshipers and others. Many fortune-tellers, gamblers, quacks, and peddlers do business at the entrance of this building. As you enter the edifice, you are attracted by stalls, five in number, on either side. These are shut in by a grating, so that the whole interior can be seen only with some difficulty. Within these stalls the punishments are exhibited by means of figures made of clay, and about half the size of the average man. The principal are: 1. Grinding a man, his head being crushed between two huge stones by a slow revolving motion; 2. Sawing a man in twain. The saw is represented as having passed through the skull and chest, and making rapid strides through the stomach, etc.; 3. Placing a man under a red-hot bell, which is being lowered slowly and gradually over him; 4. Boiling a child in oil; 5. Beheading; the man is represented naked to the waist, kneeling, with his hands tied behind his back and his head slightly inclined forward. The executioner stands behind and a little to the right, holding in his uplifted hands a long heavy knife; 6. Bambooing; the victim is

represented as being held firmly on the floor in a prone position, and unmercifully pounded with rods, etc., etc. I do not exactly remember the rest, but these will suffice to give you an idea of what it is. The countenances of those undergoing punishments, and those inflicting them, are fearfully distorted and most varied, to suit, I presume, the state of feeling of each individual case.

Yesterday I spent my time in the stores and curiosity shops, on Jade street. To a Chinaman, Jade stone is what diamond is to us. The most fabulous prices are set on the article. Among others, I remember a pair of bracelets marked at fifteen hundred dollars. To an outsider, there is no beauty in the precious jewel, except the high degree of polish which it admits of. Many other things I have seen which might be worth writing about, but I forbear. Believe me ever yours very affectionately,

H. J. B.

New York, August, 1875.

Prof. E. S. Gaillard:

Dear Sir,—What more charming place could there be for the meeting of a medical society, or, indeed, any sort of society whatever—in mid-summer, than Newport? And here the eighth annual meeting of the American Otological Society was held, according to custom, in the latter part of July.

Newport is undoubtedly the most beautiful watering-place on this continent, combining as it does such a romantic and extensive sea coast and such an unrivaled array of elegant country-seats, and is probably not surpassed by any of the noted resorts abroad, while its many quaint and interesting historical associations invest it with a doubly great attractiveness. The older part of the town, with its narrow, crooked streets and antique little frame houses huddled close together, affords a striking contrast to the modern portion and its environs, where there is an endless succession of charming villas and cottages, of every style of architecture, from the most imposing and ornate to the most simple and rustic, and surrounded by grounds exquisitely laid out, and kept as would have delighted the soul of Downing, the father of landscape gardening in this

country. There is a peculiar mildness and softness about the air of Newport, due probably to the influence of the Gulf Stream, which makes it a desirable place of residence even in winter, and which causes all sorts of vegetation to thrive most luxuriantly. It is a wonder to behold the huge beds of blooming salvia, geranium, begonias, pansies, and petunias, surrounded by broad borders of superb colias, which adorn the lawns, the grass of which has all the velvety richness of the fine green sward of the old English parks, and every house is ornamented by a limitless variety of hanging baskets and jardinières. It is true that occasional disagreeable fogs form an unpleasant feature of the Newport climate, but they only serve to make the beautiful scene more bright and attractive when fair skies succeed. The turn-out of stylish horses and equipages on Bellevue Avenue in the height of the season is equal to that on the grand drive in Central Park, and only second to the display one meets with in Hyde Park or the Bois de Boulogne. The American Otological Society was organized at Newport in 1867, and began in a very small way. Since then, however, it has fared prosperously, and now numbers among its members about sixty gentlemen distinguished in aural surgery, who reside in eleven different States. The Society met this year, as usual, in the parlors of the Aquidneck House, with the President, Professor D. B. St. John Roosa, in the chair, and among those present were Drs. Blake, Dix, and J. Orne Green, of Boston; John Green and H. N. Spencer, of St. Louis; Kipp, of Newark, N. J.; Miller, of Providence, R. I.; Strawbridge and Wm. Thomson, of Philadelphia; Williams, of Cincinnati; Vermyne, of New Bedford, Mass.; Prout and Matthewson, of Brooklyn, and Agnew, Thomas R. Pooley, Roosa, Sexton, Oren D. Pomeroy, and Allus H. Buck, of New York. After the annual report on the progress of Otology by Drs. Blake and Matthewson, the regular papers and cases were presented by the members, and thrown open to discussion at the close of their reading. Dr. Buck read a paper on "Intra-tympanitic Pressure," and was followed by Dr. Kipp, who presented a specimen of angioma of

the lobule of the ear. Dr. Strawbridge remarked that the impression had gone abroad that tumors of the auricle were confined to the negro, but that he had personally met with them in whites; and this was also the experience of one or two other gentlemen present. Dr. Pomeroy reported a case of Otitis Media Hæmorrhagica, and Dr. Agnew a record of five hundred consecutive cases of ear disease, with remarks upon the early treatment of acute affections of the ear. A case of suppuration of the middle ear, together with a specimen, was presented by Dr. Roosa, after which he read a paper on "Experiments on the Effects of Quinine on the Ear," in which he detailed the results of his observations on a number of healthy persons, including Dr. Wm. A. Hammond, to whom quinine had been administered in quantities carefully noted. He found that it almost invariably produced congestion of the ear, though in none of the individuals was there, or had there been previously, any disease of that organ; thus controverting the observations of Mélier, who is quite decided in his opinion that deafness is often produced by quinine. Dr. Hammond experimented on himself, under Dr. Roosa's observation, in May, 1874, and it was ascertained then that not only was the membrana tympani engorged with blood, but the whole intra-cranial circulation probably affected, as indicated by ophthalmic examination. It may, perhaps, be remembered that about the same time he made a number of experiments on dogs, and that the hæmatometer he devised, which was placed in immediate contact with the pia mater, after trephining the animal, invariably showed congestion of the brain, often very considerable, after the exhibition of quinine. Dr. Roosa undertook his experiments in order to prove satisfactorily, if possible, whether or not quinine was dangerous when administered to persons suffering from aural disease. The paper elicited considerable discussion, and the opinions of the gentlemen present seemed to be somewhat divided on the subject.

At the evening session, papers were read by Drs. Blake, Strawbridge, Matthewson, and others; and before adjournment

the following officers were reëlected: President, Dr. D. B. St. John Roosa; Vice-President, Dr. C. J. Blake; Secretary, Dr. J. Orne Green. The next meeting of the Society will be held in New York on the 15th of September, 1876, when the annual meeting will be blended with an International Congress, which has been in contemplation for some time. Invitations have been forwarded to gentlemen interested in otological science in every country of the world, and among those who have already accepted, are Dr. James Hinton, of London, Dr. Cassels, of Edinburgh, and Professor Helmholtz, of Berlin.

Dr. Peter A. Callan, Assistant Surgeon to the New York Eye and Ear Infirmary, has recently made a careful examination of the eyes of a large number of colored school children, and now gives the results of his observations to the Profession. Examinations of schools in Europe, in order to determine the refraction of the scholars' eyes, have, of late years, been of frequent occurrence.

Jager was one of the first to make examinations, and the only one to determine the refraction in new-born children. He was followed by Cohn, of Breslau, who tabulated 10,060 school children. Erisman and Dobrewlsky, of St. Petersburg; Hoffman, of Wiesbaden, and many other European oculists, made examinations of schools and universities, and all found an increase of myopia in the higher classes of the lower schools, and in the higher schools and universities, alarmingly high percentages of myopia. The increase of myopia could, in a great part, says Dr. Callan, be shown to depend on badly-lighted study-rooms, unsuitable seats and desks, too long continuous hours of study, and a confined range of vision. Jager found 75 per cent. of myopia amongst new-born children, ranging in degree from a 1-20 to a $\frac{1}{4}$, and this very large percentage is due, no doubt, to the great thickness of the infantile lens, and to the as yet imperfectly developed *zonula zinii* not being able to exert any influence on it. Cohn examined school children with test-types at four feet distance, and in this way of most the cases of myopia less than 1-30 escaped, and were reckoned

to the emmetropes. In each of the apparently emmetropic eyes, he put sulphate of atropia, and when the accommodation was completely paralyzed, again examined them. As a result, all the emmetropes became hypermetropes; the greatest number ranging in degree from a 1-36 to a 1-20 of hypermetropia. Erismann found in his investigations as high as 42 per cent. of myopia in certain classes, and only 26 per cent. in the whole school; while hypermetropia in the lower classes amounted to two-thirds. He thinks hypermetropia is the normal reflection of the healthy youthful eye, and not that which we denominate emmetropia; still less myopia, as they are only the exception at that age.

Donder's views are decidedly in opposition to this, his doctrine being youth, hypermetropia, adolescence, emmetropia; old age, hypermetropia acquisita. Dr. Callan had excellent reasons for selecting colored children for his observations. Heretofore, nearly all the examinations have been made in Germany, and, of course, on whites. There is, as is well known, a very large percentage of myopia amongst the students in the gymnasiums of Germany, and it is much greater there than in the other countries of Europe. This is due both to hereditary tendencies and the long course of studies pursued. Our colored brethren, as a rule, never did enjoy a thorough system of education; the present generation in New York may be said to enjoy as thorough as the city affords, but their forefathers did not, nor have they been raised to such pursuits as demand a very close application of the eye, such as engraving, etc., therefore, cæteris paribus the negro's eye should approach nearest to a natural eye—i. e., normal eye. The very best material for examinations of this kind could be obtained in the Southern States, where, until late years, the negro was debarred from the luxry of spoiling his eyes in acquiring a modern education. In examining the schools, Snellen's test types were employed. The child to be examined was placed thirty feet distant from them, and each eye alternately tested on card A, for example, the result being noted. Then convex and concave glasses were

placed in turn before each eye, and the pupil asked to read card E. Each scholar was likewise tested for color blindness. Cohn was very fortunate in being able to examine 240 scholars' eyes under the influence of atropia, an opportunity which does not present itself very often, and such a procedure was entirely out of the question in the present instance, particularly as the children feared from the first that their eyes were by a species of legerdemain to be taken out, and afterwards replaced—a belief which, Dr. Callan remarks, by the way, is not confined to colored children, but also held by some very large children of the Caucasian race. Not being able to put atropia in the scholars' eyes, he put it in his own, so as to thoroughly paralyze the action of the ciliary muscle. Each scholar's eyes were separately examined with the opthalmoscope in the upright image, and the correcting glass used to view the fundus distinctly gave the refractive condition of the examined eyes. These opthalmoscopic examinations were made in the forenoon, and extended over a period of five weeks, during which time both eyes of the examiner were under the influence of a four-grain solution of atropia, applied three times daily, so that the accommodation was completely paralyzed. Two public schools were examined, both together containing 457 scholars, of these 431 were emmetropic, 94 per cent.; 12 myopic, 2.6 per cent.; 14 amblyopic, 3 per cent. Public School No. 3 contained 293 scholars, 274 emmetropes, 10 myopes, 9 amblyopes. (Query, how many ethiopes?) Public School No. 4 contained 163 scholars, 157 emmetropes, 2 myopes, 5 amblyopes. School No. 3 has a percentage of 3.4 per cent. myopes, while School No. 4 has only 1.2 per cent. The explanation is, that School No. 3 has an excellant corps of teachers, and is really the colored high school. In consequence of its superior advantages it is frequented by scholars of well-to-do parents from all parts of the city; while School No. 4 has only a local attendance. Dr. Callan is fully satisfied that if he had examined an equal number of white children, he would have found a much larger proportion of myopia. He gives a large number of tables and

details in regard to his observations, for which we have no space. Those cases classified under amblyopia as macula cornea presented a rather singular form of eye disease—hypertrophy of the limbus. During the examination of the scholars he found three cases of persistent hyaloid artery, all in the left eye. Considering the number of eyes examined, and the comparatively few cases on record of persistent hyaloid artery, this number is very large, and he puts the inquiry, are we to expect to find more such cases in the colored race than in the white? No color blindness was found among the scholars. Dr. Callan certainly deserves great credit for the care and perseverance with which he has made these observations, but says, in concluding, that he would consider himself amply repaid for his time and trouble, should his results cause similar examinations of other colored schools. We are confident that no very alarming degree of myopia would be found to exist in a negro who was recently a witness in a case at Galveston. When asked his trade, he said he was "er fissian" (ascertained afterwards to mean "a physician"), and being inquired of in what school he studied, he replied: "Hey! Didn't study 'tall. Cum into de worl a doctor. Was borned a doctor." Having shown a city license to practice, he was asked if he could read, and the answer was, "Nor, sir. I didn't need ter. I'se de sebenth son of de sebenth son. My nollige was born wid me."

As far as can be ascertained at present, the census of New York State seems likely to prove a complete failure. The work was to have been accomplished by July 1st, and yet all the returns are not even now in. There has been so much political trickery about the matter, and the enumeration has been conducted in such a loose and irresponsible way, that the result can not but prove unsatisfactory, and it is altogether possible that the Legislature may order the census to be retaken. Complaints have been general throughout the State, but in this city particularly the work has been inefficiently done. The omissions in some cases have been so gross and flagrant as to call for the discharge of the enumerators, and it is known that in some of the up-

town districts whole rows of houses have been passed by unvisited. The estimate of the population employed by the Board of Health in making out their statistics is 1,060,000, and this is probably about correct, as it gives an average annual death rate of 26.76 to the 1,000 inhabitants, which shows a pretty fair condition of health for New York.

Some, for political reasons, want to run up the population to 1,500,000, in which case the death rate would be only 19.27, which is, unfortunately, quite improbable.

While upon this subject, it may, perhaps, be well to take a glance at some interesting statistics which a recent writer in the "American Exchange and Review" has compiled from the censuses of the United States (1870) and England and Wales (1871), showing comparatively the intellectual, social, and industrial condition of the people of the two countries, from which it appears that the number of professional persons in England is, proportionally to the population, twice that of the United States; that this is the greater agricultural country by 100 per cent., and that England is the greater mechanical, mining, and manufacturing country by 200 per cent. The proportion of lawyers and their assistants to the whole population in England and Wales is 1 to each 653, and in the United States 1 to each 946; while in Prussia there is only one lawyer to 12,000 people, from which we must judge that the Germans save a good deal of money in the way of legal fees, though when once here in the United States they seem to take to litigation as naturally as our native citizens. Of clergymen there is 1 to each 879 in the United States, and 1 to each 718 in England and Wales. This shows a vast difference to the state of affairs in Italy and Spain, where the ratio is 1 to 143 and 1 to 54 respectively. The proportion of physicians (including chemists and druggists) in England and Wales is 1 to each 661 of the inhabitants, and in the United States (exclusive of druggists) 1 in each 612; showing that there are more physicians in both countries than members of any other one of the learned professions. Of dentists, the proportion is 1 to

each 9,210 in England and Wales, and 1 to each 4,919 in the United States.

The famous Colorado potato bug has been making the most extensive ravages all through the Middle States and New England this summer, and as some form of arsenic seems to be the only reliable agent yet discovered for its destruction, the question has naturally arisen, How far this poison can be used with impunity for this purpose? Professor William McMurtrie, Chemist to the Department of Agriculture at Washington, has made a series of very careful experiments, with a view of finding this out, and at the end of his report comes to the following conclusions: "With these facts before us, and without considering what may be the result of a series of experiments continued through a series of years, we must conclude that plants have no power to absorb and assimilate compounds of arsenic, and that though the latter may, by its presence in the soil, exert an injurious influence upon vegetation, yet they are practically without effect until the quantity present reaches—for Paris green, about 900 pounds per acre; for arsenite of potassa, about 400 pounds; and for arseniate of potassa, about 150 pounds."

Some profess to have found an efficient remedy in a combination of lime and sulphur (one pound each to four gallons of water), and others in simple wood ashes. If this be indeed so, these agents are certainly greatly preferable to Paris green, on account of the accidents likely to happen from storing and handling such a deadly poison. While the country has thus been suffering from such a scourge, we in the city have not been free from a similar infliction, though certainly one of minor importance, in the shape of a nasty caterpillar, which is devouring the leaves of our shade trees. A few years ago, when New York was completely overrun with "measuring-worms," a quantity of English sparrows were imported, and ever since then these have been a most efficient protection against them. The sparrows, however, do not seem to enjoy the present "diet of wurms," and the caterpillars go on with their devastations with hundreds of the birds chirping unconcernedly around them.

Before the sparrows were imported, it was feared by some, on account of their quarrelsome disposition, the noise they would keep up, and the probability of their driving other birds away, that they would prove as great a nuisance as the worms, and a certain wag being asked which he would prefer, replied, "Well, I've had worms, but I never tried sparrows." So now we have worms and sparrows both.

Apropos of this subject, perhaps some of your readers that are good at conundrums may answer the following: What's the use of a child's having worms before he is old enough to go a fishing?

Drs. A. B. Crosby and J. P. P. White have been appointed attending physicians to Bellevue Hospital, to fill the vacancies left by the resignation of Drs. Gouverneur Smith and J. E. Taylor (the latter having been made consulting physician), and Dr. John P. Gray, Superintendent of the State Lunatic Asylum at Utica, has been appointed Professor of Psychological Medicine and Medical Jurisprudence at Bellevue College.

In July, Fordyce Barker appeared before the London Obstetrical Society and ventilated his views on the subject of puerperal fever, which, however, was scarcely so stupendous an event as to call for a special cable dispatch, as one of the New York papers indulged in on that occasion.

Faithfully yours, STAR.

LIBERTYVILLE, Mo., May 23, 1874.

E. S. Gaillard, M. D.:

Dear Sir,—On the morning (time 2 A. M.) of January 12, 1874, I was called in great haste to see Mrs. D., a multipara of about twenty-six years of age, who I was informed had been suffering with labor pains of a trifling character during the previous day; had gone to bed that night as usual, and slept well until awakened by a very severe pain at the time indicated, simultaneous with which she had a discharge of blood from vagina, vomiting immediately ensuing. After this the pains were slight and apparently powerless, with a less dis-

charge per vaginam, accompanied with severe vomiting until I saw her. I found that she had discharged about a pint to a quart of blood, and vomiting continued uninterruptedly. The matter ejected from the stomach was of a dark brownish color, and very copious. If it was not coägulated blood (?) it was certainly sanguinolent in character. She stated that it was not yet her time "to be sick," and lacked about one month, according to her count. Acting upon this information, I immediately endeavored to quiet the uterus and relieve the vomiting, and administered quarter-grain doses of morphia sulphas, enjoining perfect quiet and the recumbent position, which, however, proved futile. The hæmorrhage now being inconsiderable, I concluded to stop the vomiting if possible, and to this end bent all my energies and prescribed whiskey toddy, sub. nitrate bismuth and oxalate cerium and champagne wine—(à la Meigs) alternating the one with the other and in combination, at the same time applying sinapisms to epigastrium. I succeeded twice only in arresting it. The first intermission lasted about two hours; the second about two and a half hours. The respite obtained was occupied in sleep; the pulse was a good deal excited and intermittent in its stroke and fullness, mounting up to 110, then falling considerably below; the thirst urgent and excessive; for a while all the ice water the craving of an abnormal appetite desired was allowed (say a pint at a time) without avail; then it was given in much smaller quantities, repeated often, with no relief to the irritable stomach; for as soon as it was filled, the water was immediately rejected, seething hot and universally of the color previously indicated. Seeing that the emesis could not be controlled by remedies (of my knowledge ?) administered through the stomach, I had recourse to clysters, and introduced per anum an enema containing the following:

℞—Sub. Nitrate Bismuth, grs. v.;
Oxalate Cerium, grs. iij.;
Morph. Sulphas, gr. ½;
Starch Mucilag, fl. ℥ij. M.

Which had the happy effect of relieving her, producing quiet, rest, and sleep for about six hours. This made me more hopeful, and I now thought I might be able to control the irritability permanently, and thereby be enabled to stop the vomiting. But alas! I was again doomed to disappointment, for it returned after the interval of rest with the same violence in the paroxysms. I repeated the enema with the same result, except she did not rest so long after each injection, which was repeated as often as was prudent.

Thinking that a crisis was approaching, there being no amelioration of the case; the patient solicitous; friends apprehensive, myself not at all liking the symptoms, never before in a limited experience having seen a similar case, I requested that a consulting physician be called in. Dr. Goff, of Fredericktown, was sent for and came. He and myself were of the same opinion, that all had been done that could be to palliate her condition, and in order to ascertain her condition, made a per vaginam examination, which previous to this had been refused, on the ground of its "not being her time." We were not any wiser, however, by so doing, for the os uteri was high up, not dilated, and no presentation could be detected.

We were undecided as to further treatment, and, in fact, were "rather stumped" as to the intelligible course to be adopted in the premises; but were of the opinion that the vomiting was caused either by mechanical pressure of the fœtus upon the stomach or sympathetic nervous influence of the gravid womb, and that the sooner she was delivered the better. The uterus at this time and previous was in a state of comparative inertia. What little pain there was, "worked up into her shoulders," and the movements of the child ceasing (which all along had been very vigorous), and the vomiting continuing unabated, accompanied by anorexia, we first endeavored to get the uterus to contracting with ergot, giving one drachm of fluid extract every twenty minutes, until four doses had been taken, with no appreciable influence; it was then tried for this purpose in double doses per anum, with no success. Retching

and rigors now supervening, it seemed as though the unfortunate lady was doomed. The hæmorrhage, however, was still inconsiderable (the only favorable feature), so we finally determined upon mechanical delivery, which was successfully done on Friday, at 10 o'clock A. M., the child being at full term and dead. Dr. Goff performing the operation and I administering the chloroform. There was very little loss of blood, and the patient soon recovered from the effects of the anæsthetic.

The case proved to be one of placenta prævia, the placenta was found impacted and plugging up the cervix uteri. I am unable to account for so little hæmorrhage in the case. We were in hopes now, inasmuch as the exciting cause was removed, that our patient would not vomit any more, but our hopes were soon dissipated, for in about half an hour nausea and vomiting again set in, continuing for thirty-six hours, causing me (Dr. G. had gone home) to ascertain what I had for some time suspected—viz., the presence of acute gastritis. This unfortunately, was followed in twenty-four hours by metro-peritonitis, which produced a most alarming and pitiable condition of this complicated case. The treatment was as actively antiphlogistic as I thought she could bear in her anæmic situation. It consisted of calomel, opium, ipecac, tincture verat. viride, letting her use ice freely; blistering abdomen from ensiform cartilage to os pubis; administering beef tea per anum, and applying morphine hypodermically

In about two weeks slight ptyalism having occurred, I had the infinite satisfaction of seeing my patient get better, nausea and vomiting subsided; pain, tenderness, and tumefaction of hypogastric region gone. About this time a very unhealthy discharge took place from vagina, emitting a very offensive odor, which would hardly admit of one remaining at bedside. I injected uterus with tepid water impregnated with bromo-chloralum; sponged vulva with castile soap and water, and placed carbolic acid in solution in saucers about the room. In about three days bad odor had entirely disappeared, and discharge from vagina normal; appetite good, and sleeps well. This state

of affairs lasted for several days, when puerperal mania set in. The mind constantly wandering, with incoherence and insomnia; very feeble; rapid, weak pulse.

Treatment.—Quinine, Dover's powder, bromide potassium, and hydrate chloral. In ten days marked improvement. My friend, Dr. G., saw her again at this time, and agreed as to treatment. But I must condense and conclude hastily this already too long and tedious report. My patient's mind was not entirely normal in two weeks, and insisted on dressing and sitting by the fire; and as she would take no denial, she was gratified, dressed, carried to the fire, sat in her chair. Result of exposure, an attack of pneumonitis of middle lobe of right lung, which again put her back.

Treatment.—Supportive and expectant with counter-irritation. In time she got well of this, but was scarcely convalescent before she was seized with acute pleuritis of left pleura. I was summoned hastily, and found her suffering from pain in side; the greatest agony with dyspnœa; distinct rigors; cold extremities, and teeth chattering like what is called "buck ague" in swamps. I deem it altogether unnecessary to occupy further time to detail treatment in this case, inasmuch as it does not substantially differ from that in the former one, and under which she was once more permitted to enjoy convalescence and a return to health and strength, by the moderate gratification of a good appetite and use of egg-nogg and milk punch ad libitum et pro renata.

This report would be incomplete were I to neglect to mention the prescence of two bed sores that made their appearance on her body about two months ago; one was located low down on the sacrum, the other on the right hip; the one on the back has healed; that on the hip still as large and deep as a buckeye. It was originally about two inches in length by one and a half inch in width, with same depth, and as "black inside as your hat." The flesh inside of dimensions specified, for about one month, was very tenacious, rubber-like and offensive. Now, as to treatment (local), I will not attempt to enumerate; but the

summary is cauterization, emollient cataplasms, ointments, carbolic acid, etc., etc. The constitutional treatment iron, quinine, and wine. My patient locomotes by means of crutches. Exercises round the house, and in a buggy, and, in fact, rode ten miles to Fredricktown, remained about a month, and had several physicians of that place to visit her and examine the sores; but there was a unanimity of opinion with regard to the utility of the treatment indicated. The lady is now at home, and appears to be doing as well as could be expected for one who has passed through as severe and trying an ordeal as she has. It looks apparently miraculous when I review the case with its many meanderings, complications, and vexations from the beginning to the end, approximating a period embracing nearly five months, and not the least conducive towards the happy and favorable issue of the case was a robust constitution, with fine corporeal preservation.

In conclusion, allow me the privilege of saying that the object of this communication is not to provoke unjust criticisms from medical experts or connoisseurs, and I trust that it may not be my misfortune to be anathematized by either of them; but I hope that it may come under the observation of some good, intelligent, honest physician of years and experience, if not too much valuable time is occupied in its perusal, who will point out my errors and the remedies, so that others no older than myself, engaged in the practice of the same noble Profession, may be edified and profited thereby, and mankind benefited by the amelioration of the ills to which it is subject, and by violating the inexorable laws of nature.

P. S.—This report was made in May, since which time this lady has entirely recovered and is at this time the very personification of health. T. A. U.

PROCEEDINGS OF SOCIETIES.

"Etsi non prosunt singula, juncta juvant."

TRACHOMA OR GRANULAR CONJUNCTIVITIS. An Essay read before the Medical Society of Nashville, by A. BLITZ, M. D.

This disease, commonly called granular lids, is more frequently met with in ophthalmic practice than any other affection of the eye, and at the same time is one of the most stubborn diseases of this organ, owing to its tendency to run a protracted course and become chronic, in which stage we are more frequently called upon to treat it than in the preceding acute stage. Eyes affected with acute granular ophthalmia are often neglected and treatment deferred until the disease has become chronic, and perhaps commenced its ravages on other parts of the organ, as is shown by the sequel of this destructive disease. Granular conjunctivitis is an affection of the tarsal conjunctiva, but in severe cases the disease may also extend to its ocular portion. These granulations commence to form in rows on the palpebral fold, from whence they soon extend over the palpebral and often also the ocular conjunctiva, consisting of small excrescences, which, like condylomata, are deeply rooted in the parenchyma of the conjunctiva, resembling little roundish granules, sometimes only slightly elevated and very vascular, and again at others very prominent, of a yellowish-white appearance, resembling, as Arlt says, "boiled sago grains scattered between the papillæ."

These granulations are not a diseased state of the papillæ themselves, but are formed from an exudation under the epithelium, and into the parenchyma of the conjunctiva and its connective tissue, resulting in the formation of neoplasms. The symptoms of acute granular conjunctivitis are very marked. The lids become swollen (which, of course, varies according to the severity of the disease); we find also swelling and redness of the semilunar fold and caruncle, great increase of the secretions, at first only the lachrymal, later

also the mucus, and in time they become muco-purulent in character. The pain from the existing irritation and the photophobia are sometimes very severe, increasing with the advance of the disease, and often the sufferer is obliged to cover his eyes, keeping in a darkened room, with his head bent downwards, to avoid the faintest ray of light, in order to escape the most sensitive and excruciating pain. The ocular conjunctiva looks injected and often exhibits a chemotic appearance. As the disease advances the cornea also participates in the diseased action. The granulations may be seen in the form of grayish dots on the epithelium of the cornea, extending rapidly, until, perhaps, the whole cornea is covered and a pannus formed, which may vary in density, sometimes only partially obstructing vision; but often when the disease has been allowed to continue unchecked for a long time the pannus may become so dense that vision is totally excluded. Numerous blood-vessels traverse these corneal opacities, giving them a reddish appearance. The causes of granular ophthalmia are many, very prominent amongst them is contagion. Persons living in hotels, operatives in large factories, soldiers in barracks, the inmates of prisons, etc., where the towels, washbowls, etc., are used in common, are liable to such contagious influences causing this disease. Travellers on railways often suffer from trachoma, caused by the blowing of fine dust and cinders into their eyes, which excites an irritation and inflammation of the conjunctiva, ultimately leading to trachoma. Miasm is one of the causes of this disease, and often do we find that a great number of people living in a miasmatic district are affected with trachoma, produced by atmospheric influences. Impure air is often an exciting cause of this disease, and only too often do we find that persons affected with it live in crowded houses, in narrow streets or alleys of large cities. These streets are generally very filthy, the houses in a dilapidated condition, the rooms dirty, and badly ventilated. Such persons are not only filthy in their habits, but are also poorly nourished, producing a debilitated condition of the system, which tends to make them more susceptible to contagion.

Often grave complications may exist, as catarrhal, purulent and diphtheritic ophthalmia, phlyctennular and herpetic diseases; such complications greatly aggravate the case, and may lead to extensive corneal ulcers, or even total destruction of the eye. The muco-purulent discharges accompanying the above-named affections are very contagious, and may reproduce any of these diseases, or produce granular conjunctivitis, while again discharges from the latter may produce the former forms.

The results of granular conjunctivitis are varied. If it be properly handled from the start, and if no slight complications exist, it can be readily and completely cured without leaving any trace of its existence behind, otherwise various unfavorable consequences may follow. One of the most frequent results is pannus of the cornea, which may exist in the form of a slight leuchoma only, rendering sight imperfect, or in spots with transparent cornea around them, or in a complete pannus of the entire cornea, completely shutting out vision. Corneal staphyloma is another result which may be caused by either an ulceration of the cornea or a softening and thinning of the corneal layers. The intra-ocular tension forcing the thinned cornea outward, causes it to become either conical in shape or ruptures its softened and stretched layers, discharging the contents of the eyeball. If the disease has existed for a number of years, blepharophymosis may exist, caused by a shrinking of the lids and their cartilages, and alterations in the form of the same. The palpebral aperture becomes smaller, the free edges of the lids look puffed and rounded, the ciliæ become inverted, and rub and scratch the eyeball (trichiasis). Often the lids become tylotic, the meibomian glands are entirely obliterated, also the ducts of the lachrymal gland. The conjunctiva becomes tendinous, hard and dry (kerophthalmia). Cicatrices form, running in every direction, aiding in the shrinking of the lids, rolling inwards their edges, and producing entropion. The lachrymal puncta may become obliterated, causing a constant flow of tears over the lower lid and cheek, or one or both of the puncta may only become everted, causing

a deficiency in the carrying off of the tears, when they will collect in the palpebral sac, then overflow and escape over the cheek. The prognosis in acute as well as in chronic granular ophthalma is favorable, if at the onset properly treated. Spontaneous cures are very rare, and are mostly limited to children affected with papillary trachoma. In adults this is very seldom the case; in fact, if left to itself or treated carelessly or improperly, grave results may be apprehended.

In the treatment of this disease, our first care and attention should be directed towards proper hygienic measures. At the head of them stands cleanliness, which, if neglected, makes a cure almost impossible. Dusty places and bright glaring light should be avoided. Taking cold should be guarded against. If the atmosphere is very rough, in rainy or windy weather, the patient should keep his room and not expose himself. All undue exercise must be avoided, but moderate exercise, especially walks in the open air in fine weather are very beneficial; in fact, fresh, pure air is not only beneficial, but it will aid very materially in the treatment of the disease. The places chosen for out-door exercise should be shady and free from all malarious influences.

The strictest diet must be observed. Drinking strong coffee, the eating of greasy meats, or pastry, should be forbidden, as also all highly-seasoned food and such as is not easily digested. Intoxicating drinks should be prohibited, and only when the patient is in a feeble and anæmic condition a moderate quantity of wine and a good nourishing diet may be allowed.

The eyes should be bathed several times during the day in either cold or lukewarm water, according to the state of the atmosphere and the idiosyncrasy of the patient. A little common table salt may be added to the water, not only as an antiseptic, but also for its soothing and cooling effects on the inflamed parts. Careful attention must be directed to the proper choice of suitable wearing appearel, which should be chosen according to the changes of the temperature. The general treatment varies according to the physical condition of the

patient and the stage of the disease. In the acute stage, when we find the lids very much swollen and puffy, the blood vessels distended, great pain and excessive photophobia, an antiphlogistic treatment must be instituted, and it is well to begin with the local abstraction of blood. Three or four leeches to the lower lid and temple will be very beneficial in reducing the swelling and allaying the inflammatory action, the pain will be less severe, and the photophobia materially diminished.

The bowels should be thoroughly evacuated, and a regular action encouraged. Full doses of calomel should be given and repeated as often as is necessary. I am in the habit of giving from five to ten grains of calomel at bedtime, to be followed in the morning by a full dose of sulphate of magnesia, the latter to be continued in teaspoonful doses every morning or every second morning for some time, and repeat the calomel whenever necessity demands its further exhibition.

If the patient is plethoric, we may push the antiphlogistic treatment and keep him on low diet; if in an anæmic and emaciated condition, tonics of iron and full doses of quinine must be resorted to, together with a generous nourishing diet. Quinine is especially to be recommended in cases where the patient lives in a miasmatic region; in fact, in such instances we can not treat a case successfully without this invaluable remedy. If the pain is excessive, small doses of morphiæ may be administered either by the mouth or hypodermically.

The local treatment consists of compresses dipped in astringent solutions, as acetate of zinc, alum, or sulphate of zinc and muriate of ammonia, in water, which should be applied over the closed lids, changing the compresses every ten or fifteen minutes. Collyria of one or two grains of atropia to the ounce of water, or the same in combination with three or four grains of sulphate of zinc, or the same quantity of muriate of ammonia, or a solution containing chloride of sodium and sulphate of soda, or sulphate of zinc and tincture of opium, in water, should be dropped into the palpebral sac three or four times during the day. If the secretions are very excessive and of a

muco-purulent character, benefit will be derived from collyria containing two to six grains of carbolic acid, or two to three grains of chloride of zinc to the ounce of water. Stronger and irritating remedies should be avoided in the acute stage.

If an abrasion of the cornea or blepharospasm exists, or if both exist at the same time, the operation of canthoplasty must immediately be performed, and should not be delayed, as the operation is not dangerous in the least, and is easily performed, by dividing the external canthus to the extent of three or four lines according to the necessity, and then uniting the edge of the divided conjunctiva to the corresponding edge of the divided cuticle by fine sutures, which should be removed at the end of twenty-four or thirty hours. It is astonishing how promptly and speedily this operation is followed by relief. Canthoplasty is one of the triumphs of modern surgery, and if properly performed, will never fail to give prompt and efficient relief.

As stated before, this disease has a tendency to run a protracted course and become chronic; and when allowed to do so, a more energetic treatment is required. This consists of irritating remedies. I prefer to begin with milder remedies, as sulphate of zinc, from five to eight grains to the ounce of glycerin, or strong solutions of tannin, sulphate of copper, or muriate of ammonia. Frequently I use an ointment containing one or two grains of the yellow amorphous oxide of mercury to the drachm of glycerole of starch, a small quantity of it being applied to the everted lid, which is then closed and gently rubbed until the ointment is dissolved by the tears and spread over the whole surface.

Soelberg Wells recommends the acetate of lead very highly, which he applies in the form of a fine powder to the conjunctiva of the everted lids, rubbing it well into the chinks between the granulations, and then washes off the excess by syringing it with cold water. Belgian oculists claim that after a few of these applications the discharge is no longer contagious, and the patient may now with impunity go about his business and

amongst healthy persons without any danger of infecting others and spreading the disease. In applying the acetate of lead, great care must be exercised to protect the cornea from it, especially if an abrasion of the part exists, as in such cases it leaves a white stain, which can never be effaced. I always prefer the powdered tannin to the acetate of lead, as it is free from all danger, and there is no need of washing off any excess, but instead, I let the tannin remain in contact with the conjunctiva for two or three hours, keeping the eyes closed with a pressure-bandage. I have used the tannin in this way in a great number of cases with very good results.

Of all the many remedies which have been tried for the cure of chronic granular ophthalmia, none has been found as efficient and sure in its curative action as the pencil of sulphate of copper, applied directly to the granulations every day or every second day, until all the granulations have become absorbed.

Granulations can only be cured by absorption, and the sulphate of copper applied in this way, is best suited to produce, by its irritating action, a temporary inflammatory excitement of the part, which, as it subsides, assists in the absorption of the trachomatous growths.

When applying the pencil of sulphate of copper to the granulations, care must be exercised not to carry these applications too far by deep cauterizations, lest they may destroy healthy tissue, produce extensive cicatrices, and consequently a shrinking of the palpebral sac.

The existence of blepharophymosis makes it difficult to evert the lid, and should at the same time even only a slight abrasion or ulceration of the cornea exist, the pressure exerted by the lids on the cornea would endanger the same, and perhaps destroy the sight. To prevent such an unfortunate result, the canthoplastic operation should immediately be performed.

In cases of pannus of the cornea produced by the constant irritating action of the granulations on the cornea, suitable treatment must be instituted. Often these opacities clear up gradually as the disease disappears; but if this is not the case,

recourse must be had to the remedies generally employed in such cases. I have found a solution of tannin in glycerin to act very nicely in clearing up these opacities; also finely powdered tannin, calomel, muriate of ammonia, or sulphate of soda, dropped into the cornea several times a day. Some of these powders I have used with excellent results. Often I use the ointment of the yellow amorphous oxide of mercury, or even the red oxide of mercury, or an ointment containing iodide of potassium. The wine of opium and chlorine water, freshly prepared, I have used in some cases with benefit; and lately I have used from twenty to thirty grains of iodoform to the ounce of glycerin, but I have not used it sufficiently to commend its merits.

All other complications must be treated according to the different indications as they present themselves.

Neurological Society of New York City.

At a late meeting of the Neurological Society, Dr. Alexander Murray read an interesting paper on "The Use of Electricity in Parturition, Post-partum Hæmorrhage, and the Resuscitation of New-born Infants," in which he spoke of this agent as a recognized oxytocic now. It was, however, he said, incapable of originating uterine action, and was of no use whatever in the first stage of labor. Its special field in parturition is in inertia of the uterus. Here it is indicated and contra-indicated very much in the same way as ergot; but Dr. Murray claims for it several advantages over ergot, among which may be mentioned the following: It is more prompt, as well as more certain, than the latter agent, whose influence is only felt after a considerable interval of time has elapsed; it can be used without any danger whatever to the child; the amount of action can be regulated at will. The uterus, having once come under the influence of ergot, goes on contracting with great volume till either its toxic power is exhausted or its contents expelled; but electricity is so admirably under control that its action can be instantly interrupted at any moment. There is a difference in

the effect of electricity on striated and non striated muscular fibre. In the one case its action is more speedy, violent and evanescent. In the other, its force commences feebly, gradually accumulates, and as gradually diminishes; thus remaining longer, and altogether resembling the course of natural labor-pains.

Dr. Murray always uses the faradic current, and thinks it best to apply one electrode on the abdominal walls, over the region of the fundus, and the other to that of the sacro-coccygal articulation. His electrodes are broad copper plates (the larger one being applied to the abdomen), and are wrapped in flannel wrung out of hot water before they are used. If one electrode is applied to the cervix, it interferes with the normal physiological action of the uterus. He used formerly to apply one of the electrodes to the pelvis, but this produces too local an effect, and in one instance seemed to cause a regular hour-glass contraction. The first-named method is the most philosophical and efficient, as the current thus passes in the direction of the long axis of the uterus and produces contractions precisely like those of nature.

Dr. Murray has used electricity in 102 cases of uterine inertia, and of several that he related, the following was the most startling: The patient was attended by a midwife. She had been in labor many hours, and the pains had altogether ceased for about three hours when he arrived. It was a breech presentation, and the child being all born except the head, the midwife was making unavailing traction on the body. On examination, he found that the reason the head could not be extracted was because it was locked with the head of a second child coming down vertex first, and as the neck of the first child proved to be broken, he at once decapitated it. He now applied the battery for eight minutes. Uterine contractions were at once set up, and in ten minutes the second child was born alive.

Dr. Murray has also successfully employed electricity in a number of cases of post-partum hæmorrhage, and detailed

several of them by way of illustration. It acts, as in parturition, simply as an excito-motor stimulant, and the mouths of the gaping vessels are closed by the firm contraction of the uterine fibre. He thinks it is decidedly the surest means we have of arresting this form of hæmorrhage, and he has had an electrode made especially for this class of cases. It consists of a metallic disc, to be applied to the cervix, with a stem projecting from it, which enters the uterus.

Later, the stem is to be removed and simply the disc used. The other electrode is applied on the abdomen, as before. The electric action should be kept up for some time after the hæmorrhage is controlled (so that the uterus may not be allowed to again relax), and it should be gradually withdrawn by slowly weakening the current. Finally, Dr. Murray is of the opinion that electricity furnishes us the most efficient means of resuscitating asphyxiated infants. He has used it in twenty-nine cases, and succeeded in saving twenty-three of these children. His method is to apply one electrode on the epigastrium and the other on the apex of the head. Sometimes he applies both poles over the heart, till its action becomes regular; but he regards it dangerous, as a rule, to apply the current to the phrenic nerves, having seen one child, who had already shown signs of life, destroyed in this way. From the excellent results that Dr. Murray has obtained, no one can doubt that electricity may prove of great service in the practice of midwifery; but as for one so skilled in its application as he, the mass of the Profession will probably be content, for some time at least, to treat the class of cases described by the more ordinary and time-honored methods.

New York is beginning to suffer again from its annual hydrophobia scare. The first victim was reported in August, and like so many of those of last year, the case seems to have been one of *pseudo* hydrophobia, induced by fright; yet its effects proved just as fatal as those of the bona fide disease. The patient was an engineer, and was bitten about two months ago, while playing with a large Newfoundland dog which has

always been, and still continues, perfectly healthy. The wound, which was on the lip, was very slight, and soon healed completely; yet the man allowed it to prey unceasingly upon his mind, until at last he was seized with symptoms closely resembling those of true hydrophobia, and after five days of intense suffering expired.

The "Tribune" devoted three or four columns to a history of the case, with a minute description of the last agonies of the poor wretch; and the beneficial effect of such a revolting recital upon the feelings of any weak-minded individuals who may chance to have been bitten by dogs during the last four months may be readily imagined. In one day lately the papers reported no less than five so-called rabid dogs dispatched by the police.

During the past season the weather has been intensely hot, and yet no cases of sun-stroke have been reported here, as far as we are aware. Perhaps this is a merciful dispensation of Providence, as there is now no place of reception for such cases in the lower part of the city, where most of them occur. The Park Hospital has been abandoned on account of the insecurity of its walls, and the Society of the New York Hospital have not yet succeeded in obtaining a proper building in that part of town, as they hoped to do.

Last year over 25,000 bouquets and plants in pots were distributed by the ladies of the New York Flower Charity to the various hospitals and asylums of the city, and to 726 sick persons in tenement houses. Professor Pallen has been appointed Attending Surgeon to Charity Hospital, in place of Dr. White, resigned; and Dr. Hughes, of the Long Island College Hospital, has been appointed House Surgeon to the Seaman's Bethel, Staten Island. Dr. William Draper is said to have resigned the Chair of Clinical Professor of Diseases of the Skin at the College of Physicians and Surgeons.

We are all, perhaps, liable to get into routine ways in our practice; but when this *is* a failing, we should take good care not to let our patients know it, as happened in a case we have

recently heard of not a thousand miles from this city. The husband of a certain lady who was somewhat of an invalid, always knew so well what was coming when he called to see the family physician at his wife's request, that, in order to save time, he would stop first at the druggist's and have the prescription put up for her, and then go on to the doctor's afterward.

CHEMICAL AND PHARMACEUTICAL.

"Diruit, ædificat, mutat."—Hor.

The Evaporation of Metals by Electricity.—Mr. Hopkins describes an interesting experiment, which consists in passing a charge of electricity through a very fine thread of platinum, or other metallic foil, the thread being kept in place between slides of microscopic glass. The effect of the heat from the electric discharge is to vaporize the metal that is instantly condensed in a transparent layer upon the cold glass, which can then be studied by the microscope, and can be used in various ways to determine the character of the metal and the peculiarities of the discharge.—*Ex.*

Iron in the Blood.—Boussingault's investigations have revealed the following interesting facts in regard to the distribution of iron in the constituents of the blood: Three constituents of the blood of a half-fattened cow—fibrin, blood corpuscles, and albumen—were examined, with the following results: Fibrin, .0466 per cent. of iron; blood corpuscles, .3500 per cent.; albumen, .0863 per cent. The corpuscles contain, therefore, seven times more iron than the fibrin, and four times more than the albumen.—*Jour. of Applied Chem.*

To Preserve Posts.—The "American Chemist" says that a Western farmer discovered many years ago that wood could be

made to last longer than iron in the ground. Time and weather, he says, seem to have no effect on it. The posts can be prepared for less than two cents apiece. This is the recipe: Take boiled linseed oil and stir it in pulverized charcoal to the consistency of paint. Put a coat of this over the timber, and, he adds, there is not a man who will live to see it rot.—*Boston Jour. of Chem.*

Waterproof Varnish.—Caoutchouc dissolved in turpentine, 500 parts; dry gutta percha, 240 parts; rosin, 100 parts; white lead, 200 parts; turpentine, 400 parts.—*Ex.*

Moth Preventive.—The following recipe for keeping moth out of clothing is a favorite with some families: Mix half a pint of alcohol, the same quantity of spirits of turpentine, and two ounces of camphor. Keep in a stone bottle, and shake before using. The clothes or furs are to be wrapped in linen, and crumpled-up peices of blotting paper dipped in the liquid are to be placed in the box with them, so that it smells strong. This requires renewing about once a year.—*Druggists' Circular.*

A New Adhesive Plaster.—Kauvin recommends a mixture of twenty parts of mucilage of gum arabic and one part of glycerine, spread three or four times upon linen at sufficient intervals to allow it to thoroughly dry. This plaster is glossy, pliable, does not deteriorate with keeping, and is considerably cheaper than English plaster or diachylon plaster.—*Bost. Jour. of Chem.*

The Manufacture of Bromine in the United States.—Mr. Garrigues, in a paper read before the American Pharmaceutical Association, on "The Statistics of American Bromine Production," states that about 130,000 pounds were annually manufactured, and still more could be thrown on the market if necessary. The yield of bromine is about one pound from

thirteen bushels of salt. It is obtained almost exclusively in the Ohio and Kanawha valleys, the mines at East Saginaw not being sufficiently impregnated with bromine compounds to render them profitable.—*Jour. of Applied Chem.*

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

"Judex damnatur cum nocens absolvitur."

CYCLOPÆDIA OF THE PRACTICE OF MEDICINE, Edited by H. VON ZIEMSSEN, Professor of Clinical Medicine in Munich, Bavaria. Vol. III., Chronic Infectious Diseases, by Professor Christian Baumler, of Erlangen; Professor Arnold Heller, of Kiel; and Professor Otto Bollinger, of Munich. Translated by Arthur H. Nicholas, M. D., of Boston; W. Abram Ashbridge, M. D., of Philadelphia; James G. Hyndman, M. D., of Cincinnati, and Edward B. Bronson, M. D., and Edward L. Keyes, M. D., of New York. Albert H. Buck, M. D., of New York, Editor of American Edition. New York: Wm. Wood & Co., 27 Great Jones street. 1875.

Fully one-half of this volume is devoted to syphilis, and the reader may judge of the scope and interest of this portion of the work by examining the wonderful analytical arrangement adopted by the author. It is safe to say that never before has any author presented this subject so fully and exhaustively. The list only of titles of the works used by him in his great labor would make a pamphlet of respectable size, and the whole field of bibliography, at least in its European relations, seems to have been industriously examined and utilized. The reader may judge of the magnitude and thoroughness of the author's labors, by examining the subordinate subjects presented, and by the many manifestations also of the disease which he has analyzed and offered. Here are some of the minor fields which he has patiently tilled and zealously cultivated: the history of syphilis; geographical distribution; stages; pathological anatomy; etiology; the period of incubation; the primary

affection; glandular phenomena; second incubation; eruptive fever; location in different organs; mucous fields; hair, nails, bones, cellular tissue, fascia, ligaments, tendons, bursæ, joints, muscles, ligaments, and lymphatics; the liver; digestive tract; respiratory organs; circulation; nervous system; organs of special sense; urinary organs and genital organs; syphilis of placenta and fœtus; diagnosis; prognosis, and treatment.

These many subdivisions of his subject are clearly made and presented in the comparatively brief space of three hundred pages.

The author is a unitist, though, as he says, "in another form than that given to it in the doctrine of unity. We do not regard the contagious principles of chancre as identical with this poison. It is a pathological agent by itself, but a far less constant and uniform one than the poison of syphilis, since we have seen that it may be generated *de novo* under the coöperation of certain influences, and quite independently of syphilis."

He asserts that syphilis can be transmitted by vaccination; that the course of the vaccine pustules in children already syphilitic at the time of vaccination may be perfectly normal and leave scars of the usual appearance; that in cases vaccinated from such children, unless the inoculation fails altogether, either the vaccine may take alone, or the syphilis alone, or both may take together, and go on to their full development. These views or conclusions are, it is needless to say, very strongly fortified by cases and close reasoning.

In regard to treatment, the author very logically gives the *coup de grace* to those who assert that the disease may, in its primary manifestation, be aborted or eradicated; for, as he shows, the primary affection is not the first local expression of a general blood poisoning, but the action of the virus which is for the time only observed at the point of infection. He is a strong advocate for the use of mercury in all of the different manifestations of syphilis, and believes there are but few exceptions in which this treatment is inadmissible. The chief contra-indication is in his experience in chronic albuminuria,

due to kidney disease not of syphilitic origin. He makes no exception in cases of pregnancy, at least in the early months. Sigmund, it is well known, recommends that mercury should not be used for syphilis in pregnancy after the seventh month. The iodide of potassium he lauds highly, and uses it even in the early stage.

In regard to the interesting question of syphilization, he believes that it can not obtain the confidence of either physicians or patients. According to his observation, it is most tedious to the patient and causes a slower retrocession of the symptoms than is observed where mercury is used. It annoys the patient by the production of numerous ulcers, always painful and often phagedenic, leaving indelible traces of their existence.

He repudiates vaccination in the treatment of syphilis, and believes that, born as a practice in Russia, it will die there; untried or condemned if tried elsewhere. Baumler's views are, of course, to be justly accepted as very strong, if not conclusive. His experience and preparation, his clinical and educational facilities have been large and zealously used. Having studied in Erlangen, Berlin, Prague, Vienna, Paris, and London, practicing in hospitals, and an able and successful teacher, it is admitted that his right to speak *ex cathedra* is unquestioned by even the most distinguished of his countrymen. He is also the author of many valuable papers on diseases of the muscles, eye, chest, and typhoid fever; and has been a constant contributor to many of the German and English medical journals. His contribution, therefore, to this volume of this great Encyclopædia is one of great importance.

The portion of the volume devoted to "Infection by Animal Poisons" is one of great interest and value. Bollinger's paper on glanders in horses is very interesting. He traces glanders in horses as far back as the fourth century; he opposes the untenability of the views of von Helmont referring the origin of syphilis to this disease. This view, it must be remembered, was once advocated by Ricord. Virchow has shown that there was merely a coïncidence in the appearance of these two dis-

eases at the siege of Naples. But the modern tests have conclusively demonstrated that the virus of syphilis, when introduced into horses, never produce glanders.

The pathology of glanders was long obscure; able men, Dittrich, Brown, Philippe, Engel, Röll, regarded the disease as a form of tuberculosis; indeed, Spinola and Villemin regarded it as identical with tubercle. Kreutzer and Röll believe it to be allied to diphtheria; while Bassi, Ercolani, Bruckmüller, and others seemed to consider it as identical with pyæmia. It remained for Virchow to demonstrate that it belongs to the class of granulation tumors, and his views have been ably corroborated by Leisering.

Disputes as to its contagiousness in the horse have terminated; that it is clearly contagious is admitted and demonstrable. It originates, however, at times *de novo*. In the horse, glanders is a specific infectious disease, the specific origin of which has not been demonstrated. It prevails in animals belonging to the same general species (asses and mules) and is communicable to man and the entire class of domestic animals; cattle excepted. Immunity by vaccination with the pus of glanders can not be obtained. The treatment is chiefly by caustics externally, and internally the various salts of potash. In man glanders can always be traced to diseased horses. Glanders are communicable from man to man, but only exceptionally. Hostlers suffer most often. The nasal symptoms in man, as in horses, are often the latest to appear. The bronchial tubes suffer often severely. The chief nervous symptoms are headache, tinnitus aurium, insomnia, night-delirium, with chills and fever. The post-mortem appearances resemble most those of pyæmia. The diagnosis is obscure. The history of the case is the chief guide, and inoculation of inferior animals with the pus gives much aid in the formation of an opinion. The prognosis is bad. The treatment is unsatisfactory; prophylaxis chiefly valuable and reliable. The cautery locally applied to the infected part; salts of potash internally; iron; iodine; arsenic; stimulating food and drinks; these give the best results.

The author of this part of the volume is now Professor of Comparative Pathology at the University of Munich, and also at the Central Veterinary School of Munich. He is thoroughly educated professionally, and has been a successful teacher, practitioner and writer. His works are many, and the reputation of their author is excellent.

The subject of rabies or hydrophobia is well presented. Antiquity unknown; prevailed certainly 320 years before Christ; prevails chiefly in the canine species (dog, wolf, fox, hyena, jackal); an acute infectious disease; invades with a disturbance of the nervous system and with an absence of gross anatomical changes; incubative period long and variable; specific materies morbi unknown; propagated only in infected animal organisms; fixed and non-transportable, and never volatile; originates only through infection; transferable to man and all domestic animals; prevails sometimes as an epizoötic; domestication not causative of the disease; sex not a factor; bite of an angry animal not causative of the disease; arises spontaneously at times in the canine species; communication but by bite extremely rare; transference by intermediate vehicles unknown; virus contained in the saliva, blood, and salivary glands; the infective power active for twenty-four hours after death; disease prevails in cattle, sheep, horses, goats, deer, swine, the marten, and rabbits; no land, season or climate exempt; prevails in the arctic regions, Greenland and Kamtschatka; "no preference is evinced by hydrophobia for any period of the year"; average period of incubation from three to five weeks; longest period eight months; in some exceptional cases, fifteen months; three stages, the prodromic or melancholic, the irritable or maniacal, the paralytic; lasts from two to five days; "the uniform termination is death"; diagnosis obscure; chief symptoms spasm of muscles of respiration and deglutition; treatment chiefly prophylactic; chief prophylaxis destruction of dogs by excessive taxation; prompt destruction of the virus by caustics, or eradication by suction; medicinal treatment tentative, experimental, and ineffectual. A valuable paper.

Most valuable other contributions in addition are made; chiefly those upon "the Foot and Mouth disease"; "Anthrax"; "Infection by bites or stings"; "Echinococcus"; "Cysticercus Cellulosus," and Trichinæ." As a whole this is, so far, the best volume of the series published. As usual, American medical literature and American physicians are scarcely mentioned; and the authors seem to be grossly ignorant of what has been done elsewhere than in their own country. This is a serious defect in any work; but in one termed an Encyclopædia, it is inexcusable. It is marvellous that such defects are not noticed by the American editor, and that by the use of footnotes this editor and the translators do not render some justice at least to their countrymen. It is well issued.

MISCELLANEOUS.

"Non omnes eadem mirantur ament que."

On the Part played by the Gases in the Coagulation of the Blood.—In a paper communicated to the Academy of Sciences at the meeting held on September 14, 1874, MM. E. Matthieu and V. Urbain state, as the result of their experiments: 1. That carbonic acid is the agent of the spontaneous coägulation of the blood; 2. That during life the obstacle to this coägulation resides in the blood corpuscles, these having as their special function the fixation not only of the oxygen, but also of the carbonic acid contained in the blood. As a result, the coägulating action of the last-named gas can not be exerted in physiological conditions. They proceed to show that there are many proofs of the participation of carbonic acid in the phenomena of the spontaneous coägulation of the blood. Thus, the amount of carbonic acid contained in blood before coägulation, and after coägulation, was at 100° F., 48.05 and 39.38 cubic centimetres; at 86° F., 50.00 and 44.85 cubic centime-

tres; at 59° F., 49.00 and 40.95 cubic centimeters; and at 50° F., 54.50 and 42.50 cubic centimetres. Again, the blood which returns from glandular organs, and especially from the kidneys, is incoägulable, and this blood contains very little carbonic acid (renal arterial blood 49.78 cubic centimetres per cent., renal venous blood 16.00 cubic centimetres per cent.). So also, if removal of carbonic acid from the blood be favored by simple exosmose, coägulation will not take place; yet if it be placed in an atmosphere of carbonic acid, coägulation rapidly sets in. The clots, however, are softer than those which form in the air, rendering it probable that oxygen influences their consistence. Lastly, certain neutral salts impede or prevent coägulation, but such salts fix a notable volume of carbonic acid, and thus withdraws it from the blood.—*London Med. Record.*

Aneurism of the Heart.—At a late meeting of the Pathological Society of London, Mr. Reginald Southey showed a very rare specimen of aneurism of the heart. The patient had been under his care two years ago. He was a soldier, who had served in India, and had had ague and fever there. Soon after his return, whilst carrying a heavy weight, he felt something "give way" in his chest; and this was followed by a sense of tightness across the chest, great dyspnœa, and cough. When admitted in October, 1872, there was extreme pallor and debility; orthopnœa and great dyspnœa on movement. The heart was found to be enlarged, with diffused apex beat, and a thrill felt there; a double murmur was audible over the lower part of the cardiac area and towards the apex. He became much better, and was able to work after his discharge. On reädmission in October last, he was extremely ill, and presented symptoms of left pleurisy; he was unable to lie down; there was anasarca of the legs, and also ascites. There was a systolic murmur over the heart's apex, which was displaced to the right. Four pints and a half of fluid, at first clear, then blood-stained, were removed from the left pleura by paracentesis, but he rapidly sank. At the autopsy, the left side of the diaphragm

was pushed downwards, and the left pleura contained four pints of fluid, with some blood clots. An aneurismnl sac, the size of a large cocoa-nut, was found in the wall of the heart, opening by an orifice, the size of a crow-quill, into the left ventricle near the apex. The sac was globular, partly divided by a fibrinous septum, its wall somewhat thin below, but thicker towards its upper part, and externally it was covered by the adherent pericardium. The cavity contained a quantity of blood clot and disintegrated blood. The left ventricle was not hypertrophied, but somewhat dilated; the aortic and mitral valves were healthy; the aorta not atheromatous. Dr. Southey pointed out that the diagnosis in all these cases is uncertain, and that the largest aneurisms often have small orifices. Dr. Wickham Legg thought this aneurism unusually large, the largest on record being a case of Freidrich's, in which it equaled the heart in size. He referred also to a monograph by Pelvet on the subject. Dr. Green thought the case very important, from its bearing on the etiology of the disease. He questioned whether the term "aneurism" was strictly applicable, and inquired what relation pericardial adhesion bore to the sac in such cases. Dr. Southey, in reply, remarked that when the aneurism is large, the pericardium becomes adherent and forms the outer wall of the sac; hence rupture occurs less frequently than in smaller aneurisms. The specimen was referred to a committee consisting of Drs. Southey, Green, and Legg.—*Lancet.*

Uterus—Why Subjected to so many Ills?—Dr. A. F. A. King says that he is disposed to answer the above question as the divine does when, looking into his face on a Sunday morning, he explains the reason of his spiritual deterioration. As with the transgressor metaphysically, so with the uterus physiologically. It has left undone the things which it ought to have done, and done those things which it ought not to have done; and consequently there is no health in it.—*Amer. Obstet. Jour.*

Menstruation without either Uterus or Fallopian Tubes.—Dr. W. G. Drake reports a case in which he removed the uterus entire, and fallopian tubes. The patient entirely recovered, and had at regular monthly intervals a flow of blood, per vaginam, corresponding in quantity to her former catamenia.—*Amer. Med. Jour.*

It is said that when eight years old Dr. Mary Putnam Jacobi came in from the back yard and requested a knife. "What do you want it for?" asked her mother. "I have found a dead toad," she replied, "and I want to investigate his circulation." —*Exchange.*

A woman recently applied to the authorities in Berlin for permission to follow her avocation as public prostitute. She was refused the liscense, because she was unable to produce her certificate of confirmation.—*Ex.*

Medical Consultations.—Some quaint and sensible advice to young surgeons called to meet in consultation is given in an article by Dr. Gillespie, "Medical Notes about Shakspeare and his Times," published in the "Edinburgh Medical Journal" for June, 1875. Dr. Gillespie quotes it from a rare tract by John Halle, a surgeon at Maidstone, entitled, "An Historial Expostulation against the Beastlye Abusers, both of Chyrurgerie and Physyk in our Tyme," published in 1565, and reprinted by the Percy Society:

When thou art calde at anye time,
A patient to see;
And dost perceive the cure too greate,
And ponderous for thee:

See that thou laye disdeyne aside,
And pride of thyne own skylle:
And think no shame counsell to take,
But rather with good wyll.

Gette one or two of expert men,
To helpe thee in that nede;

And make them partakers with thee
In that worke to procede.

For in so doinge, thine honestye
Thou shalt well kepe and save;
Also thy patiente therby
Righte greate comforte shall have.

. . . . . .

And also if oughte goe a wrye,
Or hinder in thy cure,
The one maye mende the other's faulte,
While friendship dothe endure.

The wounded or sore man also
Shall have no cause to grudge,
In you such uniformitye
Whyle he may see and judge.

. . . . . .

But one thinge note, when two or more
Together jogyned be;
About the paynful patient,
See that you doe agree.

See that noe disorde doe arise,
Nor be at no debate;
For that shall sore discomfort hym
That is in sycke estate.

. . . . . .

Wherefore what so ye have to say,
In things aboute your arte,
Let it be done among your selves,
In secrete and apart.

With one consent uniformlye
Comforte the wounded man;
But unto some good frend of hys
Express all that ye can.

. . . . . .

Mode of Death from Inhaling Nitrous Oxide.—M. Magitot asserts that the mechanism of death is very different from the employment of nitrous oxide and from ether anæsthetics, as ether and chloroform. When it results from the administra-

tion of the two latter, it is by syncope, but when from nitrous oxide, it is by pure and simple asphyxia.—*L'Union Medicale.*

Mr. Darin, at a meeting of the Société de Chirurgie, on March 3d, read a paper in which he denied that nitrous oxide acted by producing asphyxia. This gave rise to discussion, and the following conclusions were adopted: 1. That nitrous oxide does act by inducing asphyxia. 2. That ether has been too much neglected in Paris, and that it would be desirable to return to its employment.—*New Remedies.*

The Sensory Nerves of the Muscles.—Carl Sachs ("Reichert and Du Bois Reymond's Archiv"), in a lengthy paper on this subject, offers the following general conclusions:

1. All objections that have been brought against the doctrine of the sensibility of the muscles, are easily overthrown on theoretical grounds.

2. Reflex contractions can be produced by irritation of the nerve trunk entering a muscle, or the muscle itself. This is evidence of the presence of sensory apparatus in the muscle.

3. The striped muscular fibre, even in an "enervated" state (by curare, analectrotonus, degeneration of the nerves), is still excitable by the induced electric current.

4. All motor nerve-fibres in the muscles of a frog's leg degenerate after section of the anterior roots of the sciatic nerve. A few fibres still remain intact, and degenerate after section of the posterior roots, although more slowly and less noticeably.

5. In the sartorius muscle, it is possible, by a peculiar cut, to show the separate action of the motor and sensory fibres. Irritation of the first causes local contractions; while of the latter, it is without effect.

6. With proper precautions, it is possible to irritate each nerve-fibre of a muscle by itself. We find fibres, irritation of which produces no contraction.

7. The intra-muscular fibres show, at tolerably regular intervals, the "annular strangulations" of Ranvier, the pre-exist-

ence of which was proved by their presence in fresh, physiologically active nerve-fibres.

8. The striped muscles of all vertebrates possess sensory fibres, which arise from a relatively small number of medullated fibres, by division. The secondary and tertiary branches, by their long isolated course, the ramificatory manner of their increase, are distinguished from the motor fibres which are always united in bundles and increase by division. They give out soft, non-medullated, nucleated fibrils, frequently anastomosing with each other, and terminating in infinitely fine branches; partly in the connective tissue envelopes of the muscles, partly in the interstitial tissue, and partly in the muscular fibre itself.—*Chicago Jour. of Ner. and Men. Dis.*

Suffocation from Bursting of an Abscess of the Tonsil.—Dr. H. D. Littlejohn reports a rare case having the following features: A young married woman suffered from suppuration of both tonsils. A physician was called, who ordered the application of poultices to the throat, steaming. She was relieved by these applications and the discharge of matter. She retired and slept well during the night. At 6 o'clock A. M. she asked her husband for a drink of water. This was given, when he returned to bed. About 7:30 the husband arose and spoke to his wife. Not obtaining an answer, he became alarmed, and called for aid. Examination showed that she was dead. Post-mortem examination revealed a healthy condition of all except the following parts: Both tonsils enlarged and containing pus, which freely escaped on pressure. Frothy purulent matter in larynx; trachea and minutest ramifications filled with pus. Lungs congested; right side of heart distended with dark fluid blood; left well contracted and nearly empty.—*Edinburgh Med. Journal.*

The skull of Volta, the Italian physicist, was recently measured. It was found to be larger than the skulls of Cuvier or Byron, and a little smaller than that of Cromwell.—*Ex.*

MEDICAL NEWS.

'Nulla dies sine linea."

The Vienna University has 3,615 students, and the University of Berlin had, last term, 2,980.———Columbia College, New York, has 1,326 students in the four departments, as follows: School of Letters and Science, 151; School of Mines, 201; School of Law, 522; School of Medicine, 452.———The Empress Augusta has headed the list of subscriptions for the establishment of a hall for students attending the University of Berlin with a donation of $750.————The University of Virginia has forty-three free scholarships in its Agricultural School. They include all the benefits of scientific education. ———Spencer Wells has performed ovariotomy seven hundred and ten times.———The average quantity of water daily consumed in New York City, by each person, is stated to be 300 gallons. In ancient Rome each person consumed, on an average, 350 gallons.—*Ex.*———The International Congress of Ophthalmology met in New York City on the 12th ultimo. —*Ex.*———The celebrated Baron Rokitansky is succeeded in the professorship of pathology, in the University of Vienna, by Dr. Richard Heschl.———The handsome bridge across the Elbe at Dresden, Europe, was built with money raised by permission to eat eggs and meat in lent.————Two thousand two hundred pounds of chloral hydrate are annually used in the City of London.————The "London Medical Record," with its issue for July 15th, was changed from a weekly to a monthly publication.————Dr. W. J. Conklin, of Dayton, Ohio, graduate of Detroit Medical College, class 1869, has been appointed Professor of Physiology in Starling Medical College, Columbus, Ohio. An excellent appointment.———At one meeting of the London Obstetrical Society eleven cases were reported, in which recto-vaginal and vesico-vaginal fistulæ were caused by the wearing of various pessaries.———The "London Medical Record" has become one of the best of the foreign exchanges.

EDITORIAL.

"Nullius addictus jurare in verba magistri."—Hor.

The Medical University System.—In former years, when in the founding of Universities, different departments of it were created and established at some common point, there was a great advantage in having a medical department thus organized where the other departments were in operation. Apart from the great advantage of thus making the study of medicine an element in the course of a polite education (as was the intention of Mr. Jefferson, when he founded a medical department in the University of Virginia), it was profitable to the members of the medical department to have an opportunity of attending instruction on coördinate or collateral subjects taught in the academic department; and it was advantageous to the students in this last department to become familiar with a medical course of study; not only that those who intended practicing medicine could thus advantageously shape their course of study while in the academic department, but also that those who did not intend to practice medicine could make its study a part of their course in polite education; for, certainly, all will agree that nothing more expands and liberalizes the mind of the general student, than a study of the various branches of science embraced in a medical course.

Such was once the theory and such was once the practice in Universities. Now, however, that the law, medical, theological, and academic departments are separated, these advantages are almost entirely lost, and certainly the medical department of a University in these days is nothing more (though sometimes less) than an ordinary medical college. What the advantage or object of terming it a medical department of a University may be, requires certainly a subtlety of demonstration which is nowhere apparent or possible. In other words, it is a mere sham; there is the title, but with it none of the suggested or compensating advantages.

While then there are no advantages in thus terming any iso-

lated medical college the medical department of any imaginary or actual University, there are many disadvantages accruing necessarily to such a college. In the first place, the parties connected with it are parties to a sham, in sustaining the delusion that such a college is a coördinate part of a University which has no existence; or the coördinate part of a University which, if existing, is often separated from the medical department, deriving no advantage from it, and contributing none. Certainly, to frank and straightforward men, this misleading the Public, or rather this effort to mislead the Public, is a source of great regret and of frequent mortification.

But the disadvantages of this system are of a still more objectionable nature. Such medical departments are under the supervision of the trustees or guardians of the University; and as these guardians are the representatives and custodians of valuable property, they must logically control it, or be false to the trust and property confided to them. The effect of such control is apparent everywhere. Understanding nothing of medical education, these trustees must and do inevitably injure any medical Institution really the subject of their legislation; entailing frequently upon it temporary and often permanent injury. Again, being the custodians of the property, they must, in controlling it, control those whose action or work really benefits or injures it; they must hold each teacher or professor in their power; and knowing this, such teachers (as is notorious) manifest often, more or less, unworthy obsequiousness; or they form cliques or "rings" among themselves which vary in strength and influence. The influential faculty "ring" controls the Faculty, because it influences the trustees; and so the members of such a Faculty are not only in danger of removal by the trustees, and so too often unworthily obsequious, but they are in danger of being made to suffer by the controlling Faculty "ring," and so there is begotten a double danger, under the effects of which manhood and independence often vanish. Who does not see and know all this? Surely such circumstances are a source of great injury to the medical

department of any University, and an injury to its teachers.

But there is a greater evil still; such property is often controlled by the State or by the Municipal Bodies creating them or having charge of them. If controlled by Municipal Bodies, the members of the faculty of such institutions dance an unworthy attendance often upon the whims and caprices of ward politicians often ignorant and frequently besotted. Aldermen and councilmen must be conciliated when a college question comes up, and the faculty must dance gracefully, whenever the municipal operators turn the handle of the municipal organ. Was this the origin of that air which requires so much agility and activity, "the College Hornpipe"? But when State legislators control such universities, what are the unhappy, the ruinous results? Look at the University of Michigan at the present time; with all the devices used for glossing over the facts, it stands to-day an exponent in part of homœopathy; and those who are taught by its faculty are to be homœopaths!! In another year the Legislature will give hydropaths equal privileges; then the eclectics; then the botanical gentlemen; and lastly, the red-pepper people.

It is time that the medical departments of universities should realize that they lose everything, or may thus lose everything and gain nothing—a name; a name which deceives no one; profits no one; and which legalizes legislation that may bring ruin and disgrace. Is this warning given too soon? Look at Ann Arbor. Medical men should control medical institutions. The hand of the politician, Federal, State or Municipal, should never touch them; or if now in contact with them, this grasp should be quickly and absolutely removed. Faculties should control their property and their building; and in doing this they control their Institution. Every physician should understand and advocate these important facts; if not, homœopathy and all other forms of quackery will pollute medical institutions, medical education, and so the medical profession.

RICHMOND AND LOUISVILLE

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ORIGINAL COMMUNICATIONS.

"Qui docet discit."

ART. I.—BRIGHT'S DISEASE. By W. H. TRIPLETT, M. D., Washington, D. C. [Read before the Medical Society of the District of Columbia on presenting a variety of Diseased Kidneys, which are believed to represent several distinct forms of Renal Disease.]

The following description is appended:

No. 1 represents the first stage of the acute variety, not enlarged but deeply congested. It was taken from the cadaver of a colored girl, Fanny Harris, who had given birth to a child at full term, and still living. She died dropsical. Disease six weeks' standing.

No. 2 was also taken from a colored girl, Eveline Moulton, who had been delivered of a child immediately preceding the attack. She died dropsical. Disease six months' duration. Kidneys enlarged and white, the advancing second stage of the acute variety.

No. 3 was taken from the cadaver of a very fat, middle-aged white woman, who died suddenly. She was addicted to drink. She was not dropsical and never had been. Under medical treatment at different times by very competent physicians, and yet her renal condition had not even been suspected. They are typical of advanced cirrhosis.

Mr. President,—In 1827, nearly half a century ago, John Bright made public announcement from Guy's Hospital, London, of the constant association of certain forms of anasarca and general dropsy with organic lesion of the kidneys. It was a startling novelty, which soon found full corroboration all over Europe.

Albuminuria in connection with dropsy had been previously noticed by Dr. Blackall, of Exeter, but its significance he failed to interpret. He almost came down on the pathological condition which is forever associated with the name of Dr. Bright.

At that time it was regarded as a local affection. Rokitansky disturbed the medical mind in this respect in an able essay written in 1838 or 1839, in which he took the ground of a constitutional origin. Other physicians, resident in the English metropolis, of great merit, presently also leaned to this conviction. Since then, opinion is converging in this direction. Upon authority of the more thoughtful and best informed pathologists, it is not purely or solely a local disorder, but a blood disease primarily. This does not help matters, as the condition of the blood is not uniform.

The different zymotic poisons, measles, scarlet fever, enteric fever, erysipelas, diphtheria, variola, etc., etc., often provoke its development. The mineral and vegetable poisons have received their share of blame; mercury and lead, especially the latter. Malaria is frequently associated with and suspected as a potential cause. It has been affirmed and denied of alcohol.

Then, again, temporary physiological conditions induced by cold, perverted liver functions, glucosuria, lithæmia, etc., etc., have induced or been immediately followed by sudden accession of the malady. It is, perhaps, useless to add in confirmation of the constitutional origin of the affection, the discovery of numerous morbid lesions in other organs more or less remote, as the relationship of these events, as well as their chronological order, often render it next to impossible to determine whether they are the complications or sequences of the renal mischief. One suspicious circumstance to which much weight should be given is, that very often there is conspicuous ill health and dyspeptic symptoms for months preceding the attack. Some, with great confidence, affirm it to be as much a constitutional disease as scrofula, tubercle, etc.

If I say Bright's disease is something more remote than inflammation of the kidneys, arising further down in the organic

processes, implicating other organs, I think it will represent intelligent medical opinions of to-day.

But after a pains-taken and calm survey of our great medical domain, looking to the magnitude of the labor—clinical, anatomical, chemical, microscopical—bestowed upon this disease for days, weeks, months, and years by so many devoted and earnest members, with their meager results, one feels constrained to abandon hope of exact and succinct opinion. But the medical mind can subsist only by its activities, and men must ever work and ever hope; nevertheless, we must admit Bright's disease to be the most complex problem known to our science. The lenses of the microscope widen the field for fresh investigation, and everywhere the shore recedes from the voyager on this strange ocean.

Of its etiology, there is nothing settled. At this writing, the first minds in Europe are marshaling in a great controversy—its unity or plurality. I will not trouble you with a repetition of authorities pro and con; the weight of testimony is in favor of several distinct varieties, which can not, by any "gradation," run into each other, though they may and frequently do present in the same kidney. Virchow, a universally recognized leader in cellular pathology, gave it as his opinion, that as there are three primitive structural elements in the renal tissues—viz., tubules, capillary vessels, and fibrous stroma or connective tissue, there may be disease affecting primarily either one of these structures, and in continuation of these views, classifies inflammation of the kidney under three heads: Parenchymatous or tubular inflammation; disease of the vascular network, including the malpighian bodies, amyloid disease; lastly, connective-tissue disease, as cirrhosis.

It is the basis of most of the modern works on renal pathology. The London and Edinburgh schools fully accept it. The question, however, is being agitated, whether cirrhosis should not be eliminated as a distinctive variety of the affection. It is asserted, there is no such thing as a pure cirrhosis of the kidney, being only the remains of atrophic tubular structures, and admitting only of this interpretation.

I am at a loss to determine a mode of settlement; how it ever can be settled. The reason is obvious enough; regarding this cirrhotic kidney, almost devoid of parenchyma, how are we to know the manner of its obliteration, whether by subjective nutritive changes, or induced by external pressure from hyperplasia of connective tissue? Nevertheless, it would appear that earnest convictions have been reached by eminent writers on either side. Thus it is in Berlin, the home of Virchow, a recent work of great merit has issued from the press on renal pathology (Rosenstien's), in which cirrhosis is utterly ignored; not even mentioned. But T. Gunzer Stewart, of the Edinburgh School, takes up the gauntlet, and in reply has presented to the Profession what I believe to be the ablest exposé of Bright's disease in the English language. His work is entitled "Bright's Diseases." He enumerates three forms: Inflammatory, amyloid, and cirrhotic. To the two former he assigns three stages, giving full clinical histories and pertinent facts by which they may be differentiated during life, almost, he thinks, with certainty. To the cirrhotic variety, he attributes only two stages, an early and a late stage. He lays great stress upon the clinical history of the several varieties. If the degree of spoilation can not be accurately defined, the character of the disease may.

The book impresses one very favorably. He claims cirrhosis to be essentially a chronic disease, extending over long intervals of time, having its seat in the fibrous stroma of the organ, and prone to fits of engorgement, in which tubular disease may, for the time, be superadded, but soon subsides. It begins insidiously. The inflammatory variety is of much shorter duration and more demonstrative; some patients perishing in the first stage. If the engorgement be great and persistent, implicating much tubular structure, it is not probable the patient will pass or even will establish the second stage of the malady. In respect to the duration of the stages in this variety, it may be roughly estimated that from three to six months elapse before the second stage becomes conspicuous, sometimes even longer. Many months intervene before that amount of wasting and ab-

sorption, characteristic of the third stage, takes place. Very many perish in the second stage, known as "the large white kidney." Much atrophy is not likely to occur within a year. Eveline Moulton's kidneys are large; they are in the second stage. She was sick six months. The capsules strip off readily, leaving a smooth, marked appearance of the cortical surface. They are soft and pulpy; it is scarcely possible to have a greater remove, or more striking contrast to hard, well-developed cirrhosis, exhibited in this case of chronic alcoholism. They would tell us, who disbelieve in a pure cirrhosis, that this girl did not live long enough to have atrophic shrinkage and connective-tissue formation established. Had she survived eighteen or twenty months, these organs would have presented a different appearance; would have been cirrhotic. The primitive congestion had been too violent and persistent. They ask for a less amount of inflammatory invasion of the renal tissues; yet no objection is made to cirrhosis of the liver, of lungs, of the skin, of the brain itself. Why object to a cirrhosis of the kidneys? I think the onus of proof is with the opposite party.

On page 273 of his excellent work, Stewart has constructed a very elaborate table, exhibiting at a glance what he considers to be the characteristic signs of the several varieties of renal disease, as also their stages. That table is the result of considerable labor, and should be constantly referred to by every practicing physician, and the circumstances of his case or cases noted. Presently we shall know its true valuation. Before its construction he carefully noted the clinical histories of 132 cases, which he subsequently dissected. I call attention to what I consider noteworthy circumstances, or rather statements in that table. Take the symptom of "dropsy." My impression in respect of the preëminent importance with which the Profession regard the signification of this sign of renal mischief is, that to institute chemical or microscopical examination of a patient's urine who has no swelling of the eyelids, or face, or feet, or of any noticeable region, in order to ascertain if his ill health be dependent on a form of Bright's disease,

would be deemed entirely unnecessary. In other words, Bright's disease is a dropsy. It is very much overestimated as a sign of that morbid lesion. It is almost or nearly confined to one variety of the disease—the inflammatory. Even in this form Dr. Stewart makes the ratio 67 per cent. at the time of death. He threw out twenty-five doubtful cases from his table before he made the calculation. In the amyloid form only 6 per cent. were dropsical. In the cirrhotic it was present in 23 per cent.

Permit me to call attention to a remarkable circumstance. Of these 132 cases as much as 50 were waxy or amyloid. As they represent nearly one half of his entire number of cases, the inference is unavoidable that waxy degeneration of the renal tissue is quite common in Scotland. Whereas, in the Army Medical Museum of the United States, in this city, no native amyloid kidney can be found. They are all foreign. The statement was made to me, "they frequently looked for them, but could not find any." A great many kidneys are sent there. I mention the circumstance, though I can not offer a suggestion in explanation of the scarcity of amyloid disease in this country. The same chemical tests are used which reveal them to our transatlantic brethren.

When we consider the causes charged with provoking this variety of the affection, we are still more at fault, as they certainly obtain with great frequency in this portion of the world's domain—viz., tuberculosis, consumption, caries, syphilis, etc.

We understand, then, "dropsy" is rarely present in the amyloid variety. How will we diagnose it? There are few, if any, casts in the earlier stages, and they are finely granular and hyaline. Hyaline casts are not waxy by any means, being simply fibrin, belonging to every stage and form of Bright's disease.

Of albumen, there may be great abundance or very little. If you exclude chronicity and the above wasting diseases, there will not remain the shadow of a shade on which to predicate an opinion of the presence of amyloid disease of the kidneys in a given case of suspected Bright's disease.

Dropsy in its relation to cirrhosis of the kidneys is better pronounced, being 23 per cent., instead of 6 per cent., as in the former. How droll this sounds beside the statement of Rosenstein's, "of 72 cases of amyloid diseases, 61 were dropsical." How is so great a discrepancy between such eminent pathologists to be reconciled or explained away? Dr. Stewart is constrained to believe the German author included every case of renal disease in which any amyloid degeneration presented. Since the several forms of disease may be present in the same organ, it would not seem accurate to call a given case of this complication amyloid kidney, unless greatly in excess, but rather a mixed variety. In this character of disease an untoward circumstance, as exposure to cold or a debauch, would likely be provocative of acute congestion and inflammation, and thereby simulate the typical variety of Bright's. This accident may happen several times to such a patient before his death be consummated.

The practical question, how to differentiate cirrhosis from amyloid disease of the kidney? would seem to rest on the presence of either of the following constitutional conditions—viz., lithiasis or the gouty constitution, plumbism, alcoholism. If one or other be present, the disease is presumptively cirrhosis.

Sudden dropsy is restricted to the inflammatory form of Bright's disease. Valuable and unmistakable data are discoverable in the urine. It is dark, smoky, or bloody, with much albumen, blood corpuscles, granular and hyaline casts. In the second and third stages, if the patient lives so long, the casts become fatty, yet granular as well as hyaline casts are seen. The sudden onset after exposure to cold or during an attack of acute disease, or scarlatina, or diphtheria, is pathognomonic.

Take another symptom—uræmia. Properly speaking, there is no such thing—that is, toxic results purely and solely chargeable to the presence of an abnormal amount of urea in the blood. That there are convulsions at times having a renal complication, no one would deny; but that they result from incitations of specific poison, more especially urea, is more than

doubtful. But the convulsions; how are they to be explained without this potent factor? It would seem a more logical question to call for the explanation of the great absence of convulsions in Bright's disease; ninety cases in the hundred are not so affected. Absence of such phenomena is the rule—convulsions constitute the exceptions. So potential an agent should be followed by more uniform physiological results. If Oppler's theory of renal function be tenable, as the spoliation of these organs proceeds there should be augmentation of nervous phenomena bearing some ratio to the extent of the injury; such is not the fact. Eveline Moulton's kidneys are extensively diseased, if not utterly ruined; yet there was entire absence of symptoms of nervous injury or irritation. There was not so much as occasional headache; absolutely, no nervous phenomena whatever. This case had lasted six months. Fanny Harris, who survived her attack only six weeks, on account of its great violence, had no convulsions, and the symptom of mild coma at the end admits of a quite different explanation.

Traube claims in Bright's disease an unaccountable tendency to local serous effusions; sudden escapes of the watery portions of the blood into various regions, as a law of the disease, and not dependent on anæmia, which happens later in the malady. Effusion at the base of the lungs causes the early dyspnœa; a cerebral effusion, the head symptoms. If in the sub-arachnoid space over the cerebrum, there will be coma; if at the base of the brain in the vicinity of the great ganglia, convulsions result; if there be both coma and convulsions, the effusion is inferred to be general.

A circumstance of great import is the fact that these head-symptoms belong almost exclusively to the *dropsical* variety of Bright's disease. Leading pathologists show this theory great favor and hold it under advisement. There is no uræmia, but the nervous phenomena remain to be accounted for. The urea theory of Dumas and Prevost, which gave them a name quite generic, has not sustained the hopes it had excited. Banguelin

and Segalas injected large quantities of urea into the veins of dogs and rabbits, and it acted only as a diuretic. Bichat did the same with uric acid, urate of soda, and ammonia without exciting convulsions. Frerichs believed the symptoms chargeable to decomposition of urea into carbonate of ammonia. Oppler denies that the convulsions thus excited resemble uræmia. He charges the nervous trouble to retained products of muscle waste, which the kidneys are no longer able to convert into urea and eliminate from the blood. Perls, Schottin, and Zalesky support this statement.

I am sorry to have it to say, but in the present state of science a definite answer can not be rendered as to the cause of the convulsions in Bright's disease. The very ingenious and creditable experiments made by Dr. Hammond do not settle it back on the old basis of renal irritation, as he thinks.

Before touching upon the subject of visceral lesions observed in Bright's disease, whether accidental, regular, or characteristic traits, it would do well to emphasize one other notable circumstance in the general manifestations. The serous effusions are albuminous; no matter whence the sample be taken, whether from connective-tissue spaces or a serous cavity, it is albuminous. Some specimens are more highly charged with it than others. It has been suggested as the cause of the renal mischief by the irritation it excited in its passage through the organs. If such were really the fact, Bright's disease would be a proof of mal-assimilation. It would be well to make careful inspection of the great sympathetic ganglia for evidences of nervous lesion, as important discoveries, I suspect, await the diligent student in this unexplored region.

In studying the subject of visceral lesions, let us first regard the digestive apparatus, known as the alimentary canal. We may premise by saying we can discover no order or regularity of movement in this direction; on the contrary, nothing would appear more heterodox and inharmonious. Fanny Harris had much gastric disturbance, but there was no intestinal catarrh; she was costive. Eveline Moulton was just the opposite; there

was great intestinal irritability and diarrhœa, but her stomach was exempt. She ate and enjoyed her food, and maintained a good appetite all the time. It was noticeable that fits of purging came on during night-time.

By reference to several tables exhibiting the numerous visceral lesions, I find Frerichs estimates the ratio of gastric catarrh at 8.5 per cent., the intestinal affection a little higher—11.5 per cent. of the whole number of cases; whereas, Dr. Dickinson, of St. George's Hospital, London, puts the former as high as 26 per cent., and the latter 20.1 per cent. in the acute variety. In the chronic form of the disease at 15 and 11 per cent. respectively, being less frequent than in the acute. Adding both together to get the average, we find it to be twice as high, or this variety of lesion twice as frequent in Bright's disease, as seen in the British metropolis, than observed at Berlin. Either German stomachs offer stronger resistance, else there is error in the tables. More probably the latter.

Take a look at another set of organs—the serous membranes. Fanny Harris had extensive pleuritic adhesions of the left lung; Eveline Moulton had limited pleurisy. Both had pleuritic and pericardial effusions. In the German table pleuritic inflammation is fixed at 12.5 per cent.; in the English it is the most frequent lesion, and stated to be as much as 64 per cent.

Eveline Moulton had severe peritonitis, though she gave no indication of it in her clinical history. I think it highly probable the tappings she underwent had something to do with the amount at least of the peritonitis. Frerichs estimates this lesion at the ratio of 11.5 per cent. In Dr. Dickinson's table it is a little over 20 per cent.

In respect to the head symptoms, Eveline Moulton was absolutely exempt. Fanny Harris had simple coma, from which she could be aroused, but no convulsions.

In the German table, sanguineous apoplexy is 3.5 per cent.; serous effusion 13.6 per cent. In the English the former is 2.5 per cent.; the latter 20.9 per cent. From these exhibits,

there would appear greater preponderance of local lesions in the English population during the progress of Bright's disease. My own opinion is in favor of the English table being more correct, since Dr. Dickinson reports the whole of his 369 cases out of St. George's Hospital; whereas Frerichs gathers his 292 cases from ten different sources; some of them being English.

I pass over the lesions of the solid viscera from a desire not to tax your patience, as they throw no new light on the pathology of the affection, leaving one as much as ever at a loss. None have been exempt from some degree of morbid change. I ought to except, however, the ganglia of the sympathetic. I am not aware they have ever been examined in this disease. The subject is full of interest. In Eveline Moulton, fragments of the solar plexus were removed, and will be subjected to microscopic examination. Still the old difficulty of the relationship, the chronological order of the lesion, and therefore its true signification, would equally apply. Many cadavers will have to be inspected. The frequency of the lesion will be the measure of importance. A coarse test of nervous lesion is tumefaction and discoloration; but it must be apparent to any one, a just appreciation of special nerve lesion can only be had through intelligent microscopical dissection. This department of pathological histology is destined to high rank, and the evidences are multiplying which would establish it the first in our science.

Conclusion.—A practical question suggested by these morbid kidneys is, were they differentiated by their symptomatology during life? Are there special rules of evidence by which this may be done? It may be approximated in the acute, but in the chronic varieties of Bright's disease it is impossible, with our present knowledge, to do more than make a close guess; having first considered the peculiar constitutional conditions above named.

As Dr. Ross will tell you, since he attended these women and prepared thermometric charts to exhibit to you, the condition of the kidneys of Fanny Harris and Eveline Moulton nearly

realized anticipations; that the former would show intense congestion but no enlargement; whilst the latter would be large and white. They weighed eight and nine ounces. Sufficient time had elapsed for their cortical portions to expand from tubular accumulations. They were typical cases of the acute variety in its first and second stages. In regard to this case of cirrhosis, we are not so fortunate.

Bright's disease was not once suspected. There never was any dropsy. If her urine had been tested for albumen, some would have been found; yet not necessarily, for cases have occurred in which none was found in the urine. In other cases the amount is exceedingly small. The urine should be examined frequently in suspected Bright's disease.

Ever since Simon discovered tubular casts in the urine of those patients, we possess a means of diagnosis superior to any other. The microscope therefore is a sine qua non in the diagnosis of Bright's disease, particularly in its more obscure forms. This examination should also be made repeatedly. Much stress was formerly laid upon the character of the casts, but subsequently experience has not realized the hopes excited. You can not predicate the existence of an amyloid from a cirrhotic kidney by them. But it is of the utmost utility in determining the intensity of the affection, as well as its progress.

In respect to prognosis, it may be stated many cases in the first stage recover. In the ten (10) examples of this stage given by Dr. Stewart, six are represented as having fully recovered. I do not think he desired to state that this proportion actually recover. He gives the autopsies of the four fatal cases. One died of obscure peritonitis and abscess; another from erysipelas on the sixth day; one from pneumonia; the last after scarlet fever. The scarlet-fever case is the most typical—death took place a month after the attack. Death is rare in the first stage of uncomplicated Bright's disease, and Dr. Stewart desiring to exhibit the pathological appearances of the kidneys in this stage of the affection, made use of these examples. In this connection, I mention with regret the early post-mortem

changes in the kidneys of Fanny Harris, which render them unfit for microscopic specimens. The putrefactive changes in the blood of the engorged tubules broke them down. The other portions of the organ are well seen. The post-mortem should be made at the earliest moment in this stage of the disease. The renal engorgement was very great, more intense than observed in Dr. Stewart's cases.

The prognosis in the second stage of Bright's disease is bad; though Dr. Stewart claims recoveries from this condition, and also great benefit from judicious medical treatment. Cases are frequently arrested and prolonged for years. Much reliance is placed on the beneficial results of counter-irritation, especially with croton oil.

In the early stage, wet and dry cups, according to the condition of the patient. Mild diuretics are beneficial. The cases are treated on general principles, keeping in sight a supporting regimen. The skin should be fully protected, and its functional activities encouraged.

N. B.—I have not considered the "Fatty Kidney," as it is not a form of Bright's disease, nor recognizable during life.

ART. II.—A CASE OF HYDROPHOBIA. By W. F. HUMPHREYS, M. D., Concord, Missouri.

The reading of the article on Hydrophobia, by Dr. Duncan, published in the April No. of the "Richmond and Louisville Medical Journal," has decided me to report a most painful case of "mad dog" bite occurring in my own family.

On the 28th of May, 1867, my only son, aged eleven, was playing with a young dog in the yard, when his fellow, apparently in a fit of jealousy, came running and jumped on the dog that was receiving the attention, striking the boy with one of his teeth on the back of the second phalanx of the left index finger, causing it to bleed freely. The boy, to teach the dog better behavior, caught and whipped him; but as the dog was

strong, he slipped from the boy's grasp and caught his left hand in his mouth, causing very severe pain, but producing no additional laceration or abrasion of the skin. This occurred at 8 P. M. As there was no thought of rabies, the hand and wound were not even washed, but the blood being wiped off, the hand wound was dressed with isinglass plaster. A more complete inoculation could not well occur.

The following morning, as the dog was missing, I was reminded of several circumstances that had before failed to excite suspicion. The day before, my attention had been called to a small running sore on one of his feet; at times he had been unusually playful, and had twice fought his fellow. These facts, together with the report that several rabid foxes had been killed in the neighborhood, so alarmed me that I determined on energetic measures to protect my son from the terrible disease to be expected from the bite. Having at hand no facilities for freezing the finger, I took him five miles, to Greenville, Va., to the office of Dr. Vincent Churchman, since dead. After having frozen the finger, he excised the entire wound; and to our great relief we found that the skin was in no point entirely perforated. The length of the wound was about an inch. While the finger was frozen, of course there was no bleeding, and the wound could be as satisfactorily removed as you could remove the unsound part of a potato or apple.

After thawing the finger, we allowed the wound to bleed freely, and then thoroughly applied nitrate of silver to the wounded surface. For a week the wound was dressed once daily with a lye poultice; when it became very painful the lye poultice was removed and simple dressing substituted. This treatment was continued for a week, when the lye being left off, the wound healed rapidly. This constituted the local treatment. By the advice of Dr. Churchman, I gave three grains brom. potas. three times a day for a month, which was the only constitutional treatment. It has now been six years nearly since the accident, and no unpleasant symptom has arisen. I forgot to state that the wound was amputated at 9 A M. on the 29th, thirteen hours after the accident.

The dog was unmistakably rabid; I followed him that day to where he had been killed, three miles from home. It was known that he had bitten a calf, a hog, and a number of dogs; all of the latter, but one, were immediately killed. In three weeks the calf and the hog went mad, and in four weeks the dog, leaving nothing unaffected of all that had been bitten except my son. At this time the bromide produced headache, vertigo, and sore throat; symptoms which continued for several days after the drug was discontinued. As these effects of the bromide are unusual, it caused with me a foreboding amounting to agony, until another patient who commenced taking it about the same time for epilepsy began to complain of precisely the same symptoms.

I report the case not because it was so painfully interesting to me, but because it seems to be instructive in several particulars. The wound was certainly inoculated, and it would seem that the virus was entirely removed thirteen hours after the inoculation by the excision of the wound. Where it is practicable, freezing before excision ought always to be practiced. There is then no bleeding, and consequently no danger of the reinoculation of the wound.

In my opinion the wounds in Dr. Duncan's patient should have been frozen with rhigoline and excised on the 21st. I would not have hesitated to sacrifice the hand of my son if the wound could not have been excised.

ECLECTIC DEPARTMENT.

"Carpere et colligere."

ART. I.—The Harveian Oration—Delivered before the Royal College of Physicians, June 25, 1875. By William A. Guy, M. B., F. R. S., Fellow of the Royal College of Physicians.

Mr. President and Fellows,—More than two centuries ago (it was some time in the month of July, 1656, nine years, therefore,

before the great Plague, and ten before the great fire of London), the old College of Physicians, at Amen Corner, was the scene of a most touching ceremony. In the library of the "noble building," which he had erected at his own cost, furnished, supplied with books, objects of curiosity, and surgical instruments, and three years previously presented to the College, William Harvey met the Fellows, his colleagues, friends, and pupils, for the last time. Bent beneath the weight of nearly fourscore years, worn by repeated attacks of a painful malady, "not only far stricken in years," but afflicted with more and more indifferent health, conscious that his life must be drawing to a close (he died in less than a year afterwards), Harvey formally resigned the chair he had held for upwards of forty years; and, as the crowning act of many a deed of princely munificence, made over to the College his paternal estate.

Harvey's object in so doing was to incite other Fellows and members of the College to like deeds of liberality, "to search and study out the secrets of nature by way of experiment," and to cultivate mutual love and affection among themselves: his means to these ends, an oration to be delivered annually within the College.

Such, in brief, is the origin of this day's ceremony; a ceremony which, for upwards of two centuries, has been the occasion of gathering together, year by year, the élite of the medical profession, with many a worthy representative of every department of learning and literature, art and science.

The appointment of the Harveian orator rests, as is well known, with the President of our College. Were it not so—if I were a volunteer, self-chosen for the duty I have this day to perform—I should begin my address by words of self-depreciation; but these, under the circumstances, would be obviously out of place. Assuming, then, a certain undefined and wholly undefinable degree of competence, I address myself earnestly to the task of justifying the President's choice, fulfilling your reasonable expectations, and approaching, as near as my powers permit, to my own ideal of what is due to the dignity of this

College and the memory of its brightest ornament and greatest benefactor.

The lapse of time and altered circumstances have, as you are aware, brought about deviations from the original design of the Harveian oration. In lieu of the Latin tongue, once the written and spoken language of the learned, we now use our own native English, which promises some day to be to the whole world what Latin was to the educated section of a small part of it; and, by a sort of general understanding and consent, we meet on this occasion to do honor to Harvey himself, as the man who, above and beyond all others, has "approved" himself "a benefactor to the College," and our greatest contributor "to the sum of medical science."

In saying this, I think that I rightly represent your feelings and expectations; but, on referring to the published orations of my predecessors, I find them grouping themselves into two equal classes, the one devoted to Harvey and his labors, the other to some topic connected with modern discovery and research.

Among those who have chosen to discourse of Harvey, some (like my immediate predecessor Dr. West) have set him before us in "his habit as he lived"; others (among whom Dr. Rolleston deserves special mention, as having made an important discovery bearing on the question of Harvey's originality) have maintained Harvey's claim to be considered the real discoverer of the circulation; and one (I speak of my friend and former colleague Dr. Arthur Farre), handling a subject of which he is an acknowledged master, showed us how Harvey, in his "Treatise on Generation," displayed the same ability as in the great discovery with which his name is more generally associated.

It is with this class of Harveian orators that I elect to associate myself; and the more willingly, as certain physiological questions connected with the circulation were the first of a strictly scientific character which attracted my own attention.

Harvey entered on his work of discovery with some considerable advantages. He came of a wealthy family, and had in-

dependent means of his own, so that he could command the very best education that England or Italy could give, and either purchase or secure, through royal favor, whatever he needed for purposes of experiment and illustration. And thus his easy circumstances took from him all motive and temptation to a hasty or premature announcement of his views; and though, as his writings attest, he had good opportunities of experience as physician, surgeon, and accoucheur (for in Harvey's day the three faculties were united), and turned them to excellent account, he was not overwhelmed by the cares and incessant demands of practice, and was even withdrawn more than once by command of the Court from the usual duties of his profession.

Harvey, in being spared the drawbacks of poverty, must have lost with them the proverbial stimulus of necessity. But happily he found, in the stirring circumstances of his times, and the example of great thinkers and discoverers (his contemporaries or immediate predecessors), that spur to exertion to which generous minds yield so ready a response. For Harvey lived in an age of excitement, political and theological, breathing an atmosphere of civil strife, a witness of, and a sufferer by, one of the fiercest struggles between throne and people, between power and prescription, on the one side, and aggressive liberty on the other, that the world has ever seen. And this state of excitement, be it recollected, was but the carrying forward of the agitation of men's minds that had arisen out of the events of the Renaissance and the Reformation.

Harvey, as I have said, had for contemporaries many great thinkers and discoverers. He might have known both Shakspeare and Milton; for he was thirty-eight years old when Shakspeare died, and thirty when Milton was born. He was well acquainted with Lord Bacon, who died when Harvey was forty-eight years of age; Lord Napier, the inventor of Logarithms; Hobbes of Malmesbury, author of the "Leviathan"; Robert Boyle, Dryden, Cowley, and rare Ben Jonson, were among his contemporaries; the Marquis of Worcester was busy

with his water-compelling engine and "Century of Inventions"; Sir Hugh Middleton was at work with the New River; John Woodall, author of "The Surgeon's Mate," was commending lemon-juice as a preventive and cure of scurvy; and Sydenham (thirty-three years of age when Harvey died) was collecting materials for his immortal works, when Harvey was demonstrating the circulation of the blood. It is worthy of note that the "Novum Organon" and Harvey's great work "De Motu Cordis et Sanguinis" appeared within a few years of each other. Need I add that Harvey, surviving the execution of his royal master and patron, died in the same year with Oliver Cromwell?

As to foreign contemporaries, Harvey was only by seven years the junior of Kepler, and by fourteen of Galileo, and the senior by several years both of Descartes and of Spinoza. So that Harvey was of an age to have shared that Italian journey of Milton's, during which, as Milton tells us in his "Areopagitica," "he found and visited the famous Galileo, grown old, a prisoner to the Inquisition, for thinking in astronomy otherwise than the Franciscan and Dominican licensers thought." And here I am reminded of another advantage Harvey had in dealing with his great discovery. The views he might form and promulgate were not likely to clash with the preconceived notions of those who drew their science equally with their theology from the same source—from that Bible, of which the authorized version was first published when Harvey was thirty-three years of age; and which, laying hold of the minds of men by the sustained dignity of its language, its lofty poetry, its vivid and life-like narratives, and stirring them to their very depths by awful threats and precious promises, must have greatly added to the excitement and exaltation of the popular mind.

Harvey, then, as I have just stated, took in hand the work of discovery, with some obvious advantages. And, on the other hand, he had only to contend with the obstacles which beset all such paths as he was about to tread. He would arouse that spirit of opposition and detraction which springs up quite natu-

rally in the minds of those who, having imbibed certain views, at the cost of much study, and from the lips of men whom they hold in respect, are asked to abandon not only the views themselves, but all that, in course of time, has grown up and clustered around them. To root up these weeds and keep them under, to select and sow the better seeds, to reap and gather in the harvest, is a work demanding both industry and patience.

Such a work Harvey took in hand when he set himself to discover the circulation of the blood; and such industry and patience he continued to display to the end of his long life. For it should be well understood, and constantly borne in mind, that the discovery of the circulation was not a something that lay on the surface, and which any man of common discernment might pick up and appropriate. It was not like a new remedy which, having come into repute among the common people, waited only for some patient and intelligent collector of facts to affix to it the stamp of authority. It was not such a discovery as John Woodall made, when he inferred the efficacy of lemon-juice, as others since his day have done of oranges, or fruits, or vegetables, or even of a mixed diet, from the happy accident of two ships' crews, one smitten with scurvy, the other free from it, differing in the possession of the one article of diet, and in nothing else. Nor was it a mere simple and natural inference from occurrences numerous and uniform, as was the severity of the natural small-pox, and the mildness of the inoculated form of it, as all the world of Constantinople saw them, when Lady Montague made herself the organ and interpreter of a universal belief. It was not even so simple a matter as Jenner had to deal with, when he (more observant, more logical, more persevering than his neighbors, and with the precedent of inoculation to help him), converted the neglected gossip of the dairy into a life-preserving principle; or (to give but one other example), the discovery of the circulation was not such a simple correction of ancient and authoritative error as Ambrose Paré made when, with a mind prepared by a wholesome scepticism, he found the soldiers wounded by gun-

shot and treated by the orthodox method of boiling oil, suffering pain and inflammation, from which those he had been forced, by lack of material, to dress with a cold slimy mixture, were comparatively free. Harvey's work was of a different order. It demanded observations and experiments of a novel kind, and a keen, penetrating, refined logic to bring it to perfection. As we think of what it was, we are forcibly reminded of the modern researches of Sir Charles Bell, and at the same time of that famous "Essay on Dew," by Dr. Wells, to which logicians accord such high praise, or that other not less remarkable inquiry by which Sir George Baker, a former President of this College, compassed the discovery of the true cause of the colic of Devonshire.

To put the matter somewhat differently—between discoveries of a more simple and obvious kind, and that of Harvey, there is the same sort of difference as between the merit of discerning the use of a tool never seen before, and that of a man who, having the parts of a complex machine, such as a watch, a clock, or a steam-engine placed before him, should find out their uses, discover its motive force, and (being a work of human minds) succeed in putting it together, and setting it in motion.

You will observe that I take it for granted that Harvey did really discover the circulation of the blood; that neither he himself, nor his contemporaries who, whether they opposed or supported, at least took him at his word, were mistaken about the matter. Harvey, who had come from Padua laden with university honors, bearing with him all the learning of the ancients, and the best fruits of modern teaching; intelligent, well informed, candid, honest; doubtless spoke the simple truth when he said to the President of the Royal College of Physicians, other learned physicians, and his esteemed colleagues, concerning the great work he dedicated to them, "*This book alone declares the blood to course and revolve by a new route*"; and equally when, in his old age, he says with allowable self-complacency, "The admirable circulation of the blood origi-

nally discovered by me, I have lived to see admitted by almost all." Harvey, fancying himself a discoverer, and all the great anatomists and physiologists of Europe sharing his belief, would be a delusion for which, with all our experience of human credulity, we are scarcely prepared.

To understand Harvey and his work aright, to appreciate thoroughly what he did, to form a just estimate of the ability with which he exposed fallacious arguments, his acuteness of observation and corresponding clearness of description, the ingenuity with which he devised experiments, and his skill in performing them, we must study not only his great work, the "Exercitatio Anatomica de Motu Cordis et Sanguinis," but also his anatomical disquisitions addressed to Riolan, of Paris, and his letters to Hofmann, Slegel, Nardi, and others. Having, as in duty bound, and in accordance with the plan I had sketched out for myself, read these productions with care and attention, I venture to submit to you a brief and analytical sketch of the circulation of the blood as Harvey understood it.

I may premise that nowhere, unless I am greatly mistaken, does Harvey tell us when and where (whether while a student at the University of Padua, or while studying for his degree at Cambridge, or after settling here in London) those doubts and misgivings entered his mind, without which, in his case as in others, there could have been neither motive nor stimulus to inquiry. The first glimpse we get of him is when, seeking to discover the motions and uses of the heart by actual inspection of the living animal, and not from the writing of others, he stands perplexed and bewildered by the rapid alternation of dilatation and contraction, coming and going in the twinkling of an eye like a flash of lightning; not surprised that Andrèas Laurentius found these motions as perplexing as did Aristotle the flux and reflux of Euripus (that narrow sea between Bœotia and Eubœa, which ebbed and flowed seven times a day or oftener), and almost tempted with Fracastorius to think, "that the motion of the heart was only to be comprehended by God." He is, as it were, in a labyrinth from which he can only extri-

cate himself by using greater and daily diligence, by performing frequent vivisections of a variety of animals, and by the collation of numerous observations. Having by these means discovered "both the motion and use of the heart and arteries," he proceeds to enlighten not only his friends, but the public also, in his anatomical lectures, after the manner of the Academy of old.

But Harvey, though he does not tell us when he first began to suspect the true state of things, lets us into the secret of the process of thought by which he attained to his grand inference. He surveys his mass of evidence drawn from vivisections, and his reflections on them; on the structure of the heart and of its ventricles; on the symmetry and size of the conduits which enter into and issue from them; on the arrangement and intimate structure of the valves, with many things besides; and then, frequently and seriously revolving in his mind what might be the quantity of blood transmitted, in what time, and the like, and deeming it impossible that this quantity could be supplied by the juices of the ingested aliment, without draining the veins on the one hand, or rupturing the arteries on the other, unless the blood should somehow find its way from the arteries into the veins, and so return to the right side of the heart, "I began," he says, "to think whether there might not be a *motion as it were in a circle.* Now this I afterwards found to be true."

I proceed with my analysis. Harvey begins by telling us what he saw on exposing to view the heart of a living animal, especially such "colder animals" as frogs, serpents, small fishes, and the like; or such warm-blooded animals as dogs and hogs, when the heart begins to flag. There is a time when the heart moves, and a time when it is motionless: and when it moves, it grows hard and tense; when it does not move, it is soft and flaccid. This difference may be both seen and felt in the heart of an eel taken out of the body; and, in all colder-blooded animals, the heart which grows pale as it moves, takes a deep red color when it becomes quiescent; pale in the one case, be-

cause the motion is a muscular contraction which squeezes out the blood; red in the other, because the muscular walls relax, and the blood flows into the cavity. That this is so, is plain from the fact that, if the ventricle is pierced, the blood spurts out each time the heart moves, and grows tense; and, when the heart as a whole has ceased to beat; but the auricles still contract, if the finger be placed on the ventricles, each contraction is felt as a pulse, and, if the point of the heart be cut off with a pair of scissors, blood flows with each beat.

Putting together all his many observations and experiments on this division of his subject, Harvey concluded that the heart moves in two times and four places; that the auricles first contract together, then the ventricles; and that (speaking of the ventricles alone as the heart) these things happen in our bodies at the same instant; the tension of the heart, the pulse at its apex, felt striking against the ribs; the thickening of its walls; and the forcible expulsion of the blood it contains by the contraction of the ventricles.

Harvey has completely mastered the heart's motions. He knows all about them as well as we do now; and, in discovering the truth, sweeps away these errors: that the heart dilating, draws blood into its ventricles; that when it strikes the breast, its ventricles are distended with blood; that its fibres contract (as Vesalius thought they did) like a bundle of twigs bulging in the centre, whereas the fibres acting together, constringe the heart and make it tense; and that (as Bauhin and Riolan asserted) it has four motions distinct in time and place: two proper to the auricles, and two to the ventricles.

I must not stop to notice the multitude of curious facts by which Harvey illustrates this division of his subject; nor what use he makes of the magnifying glass to watch the heart's beat in such creatures as slugs and snails, crabs, wasps, and flies, and that convenient transparent shrimp taken in the Thames and in the sea, in which the heart is seen through a window; nor, again, those observations, so minute and exact, relating to the first appearance in the embryo of the "pulsating drop of blood," and gradual development of the heart.

From the motions of the heart, Harvey leads us on to those of the arteries, as seen in living animals. He tells us that, at the moment the heart contracts and strikes the breast, (the heart's systole), the arteries are dilated and yield a pulse (their diastole); and that this happens with the right ventricle and pulmonary artery equally with the left ventricle and aorta; also that the contraction of the left ventricle and the pulse in the arteries are cause and effect. If the one cease, the other stops; as the one is strong or weak, so is the other. The pulse is small and weak in aneurism, of which Harvey gives a case; for then the blood is diverted into the tumor, and so intercepted. Again, when the artery is punctured or divided, the blood is seen to spout forth with violence the instant the ventricle contracts. This is true of all arteries; of the pulmonary artery; of the vessel which leads from the heart of a fish to its gills.

Here again Harvey finds an error to correct. It was the commonly received opinion that the arteries are filled by expanding like bellows. He illustrates the true state of the case by the analogy of blowing into a glove. At the same time, he takes occasion to give Aristotle his due, who says that "the blood of all animals palpitates within their veins (meaning the arteries), and by the pulse is sent everywhere simultaneously; that these vessels all depend upon the heart," and move with it.

Passing now from the motions of the heart to the large vessels that enter and leave it, Harvey takes in hand the circulation through the lungs, and finds himself freed from the doubts and difficulties which perplexed other men, by enlisting on his side that comparative anatomy and those vivisections which they had neglected; for he tells them that they do amiss when they (as most anatomists do) limit their researches to the human body, and that when it is dead.

First, then, he tells us that in fishes, which have no lungs to embarrass the inquiry, but a sac like an auricle, a single ventricle, and a vessel analogous to an artery, the blood may be

seen to be driven into the vessel at each beat of the heart, and, if the vessel be divided, to issue in jets. Again, in toads, frogs, serpents, and lizards, which have lungs in a certain sense, and a voice, the blood is transferred, as in the higher animals, from veins to arteries by the action of the heart; their case being, to all intents and purposes, that of a man in whom the septum of the heart should be perforated or removed, or one ventricle made out of two; a state of things which really does exist in the embryos of those animals that have lungs, as Harvey proceeds to prove in the course of a luminous description of the fœtal heart and large vessels, both in man and in animals.

And here, again, Harvey has to correct the errors of others; of those who alleged that the large fœtal vessels which are closed after birth, when the lungs take on their proper function, exist only for the nutrition of the lungs; and of others who asserted that the heart of the embryo does not pulsate. This last assertion is plainly false; for he, and Aristotle before him, saw the reverse in the incubated egg, and in embryos just removed from the womb.

In most animals, then, and in all up to the period of their birth, the blood passes from veins to arteries by the action of the heart, and it is obvious that, in creatures which have no lungs, one ventricle (the left) would suffice to distribute the blood over the body; but (and here Harvey, as is his wont, personifies Nature), when she ordained that the same blood should percolate the lungs, she saw herself compelled to add another ventricle (the right), which should force the blood from the vena cava through the lungs into the left ventricle. The right ventricle, therefore, may be said to be made for the sake of the lungs, and for the transmission of the blood through them, not for their nutrition; for it were unreasonable to suppose that the lungs require more blood for this purpose, and that blood more pure and spirituous (as coming direct from the heart), than the brain, or the eye, or the heart itself.

Some there were in Harvey's days who denied that the whole mass of the blood could pass through the substance of the lungs; and to these he opposes admitted facts relating to the skin, kidneys, and liver, especially the kidneys and liver, which have so dense a texture when compared with the light spongy lungs. Drink swallowed by the gallon will pass off from the body in an hour or two, and yet it must first traverse the liver and kidneys to reach the bladder. The liver is a special case in point, for there is no propelling power; while in the lungs there is the force of the right ventricle and the movements of respiration to help the onward course of the blood. Columbus, then, was right when he inferred from the size and structure of the pulmonary vessels, and their constant state of repletion, that there was a passage for the blood through the lungs; and Galen might be quoted to the same purport, and especially as insisting on the function of the valves of the heart and great arteries, permitting an onward course of the blood, but preventing all regurgitation.

Having satisfied himself respecting the lesser circulation through the lungs, and taken note also of that other circuit by which the heart itself is nourished, Harvey proceeds to the greater circulation throughout the body, and has something so novel and unheard-of to say about the quantity and source of the blood which passes from the veins into the arteries, that he fears to give it expression, lest he should stir up the envy of a few, and excite the enmity of mankind at large, in whom custom has become a second nature; doctrines once sown have struck deep root, and antiquity inspired respect. Still the die is cast; and Harvey, placing his trust in his own love of truth and candor inherent in cultivated minds, proceeds to pass in review his stores of knowledge in terms I have already quoted; and, laying special stress on his subtle and profound argument, based on the obvious impossibility of the circulating system—heart, veins, and arteries—holding together, unless there were "A MOTION AS IT WERE IN A CIRCLE," indulges in a lofty flight

of poetic expressions. He compares the blood forced by the left ventricle into the arteries, and so distributed to every part of the body, then finding its way through the veins and vena cava round to the right ventricle, which, in its turn, sends it through the pulmonary artery to the lungs, to return by the pulmonary veins to the left side of the heart, to what Aristotle says of the air and rain emulating the circular motion of the superior bodies. As the vapors drawn upwards from the moist earth warmed by the sun, descend as rain to moisten the earth again, so it is with the blood. Cooled, coägulated, and rendered effete by contact with the various parts of the body, it is brought back again to its sovereign, the heart, as to its source or inmost home, there to recover its excellent and perfect state, to resume its due fluidity and natural heat (powerful, fervid, a kind of treasury of life), to be impregnated with spirits, as it were with balsam, and so sent back on the old errand of nourishing, cherishing, and quickening every part of the frame. The heart consequently is the beginning of life, the sun of the microcosm, even as the sun might be called the heart of the world; for by the virtue and pulse of the heart the blood is moved, perfected, made apt to nourish, preserved from corruption and coägulation. It is the household divinity which nourishes, cherishes, quickens the whole body—the foundation of life, the source of all action.

I stop for a moment to remark that, at the time Harvey wrote, nearly a century and a half was yet to elapse ere the chemical discoveries of Priestly superseded poetry by fact, and transferred to the laboratory of the lungs those life-giving changes which Harvey and his contemporaries thought they saw carried on in the workshop of the heart.

The consideration that inspired this poetic outburst of Harvey's was this: that the quantity of blood circling through the body in some given short space of time is far too large to be supplied by the ingesta, or used up in the process of nutrition. Harvey had guaged the left ventricle of the heart, and found it to hold upwards of two ounces of blood; and, reducing his

estimate of the quantity sent out at each contraction, and prevented from returning by the action of the valves, to the absurdly low figure of one drachm (and all the world, he says, allows that with every systole something is projected), he calculates thus: In half an hour, the heart beats more than two thousand times, and so sends forth in that short space of time more blood than the whole body contains. Say that, in the sheep or dog, a single scruple of blood passes with each stroke of the heart; then, in one-half an hour about three and a-half pounds of blood would be injected into the aorta. This approaches the whole quantity which their bodies contain, for Harvey ascertained that in the sheep this does not amount to more than four pounds.

But, if any one should object that the nutritive fluid derived from the food might quickly pass through the body in the guise of some abundant secretion, such as the milk, Harvey meets the objection by first naming the quantity of milk which an animal will yield in twenty-four hours, and then affirming that the heart by computation sends forth as much or more blood in an hour or two.

Passing over certain details relating to the quantity of blood in the body, and also to the causes which determine the frequency of the pulse, we come upon certain corroborative facts drawn from the phenomena of hæmorrhage. Divide but a small artery, and the whole blood of the body will drain away in some half hour or less; and the same thing occurs very rapidly in amputations and the removal of tumors. When a butcher, again, cuts the throat of an ox, the whole mass of blood will escape in less than a quarter of an hour; and when an artery only is divided, the same thing happens, the blood spurting forth abundantly, impetuously, as if propelled by a syringe. But if the butcher did not cut the ox's throat, after he had stunned it, till the heart had ceased to beat, he could not bleed the carcase effectually.

That the arteries receive blood from the veins otherwise than by transmission through the heart, is proved by the simple ex-

periment of tying the aorta at the base of the heart, when, if the carotid, or any other artery, be opened, it will be found empty, while the veins are full. And now we see why, after death, the veins contain so much, and the arteries so little, blood; the right ventricle so much, the left so little; facts which probably led the ancients to believe that the arteries (as their name implies) contained, during life, nothing but air. Harvey says this is due to the fact, that the action of the heart outlives the movements of respiration, so that blood is sent to the body, while none is received from the lungs. At this point Harvey makes a direct appeal to the evidence of the senses. He says: "If a live snake be laid open, the heart will be seen beating quietly and distinctly for more than an hour, propelling its contents, becoming pale during systole, of a deeper tint during diastole. Now seize the vein with a forceps, or pinch it between finger and thumb, and the part between the point of pressure and the heart immediately becomes empty, while the heart itself grows paler and smaller, beats more slowly, and at length seems about to die; but remove the impediment, and the heart resumes both color and size. Now compress or tie the artery instead of the vein, and the part between the obstacle and the heart, and the heart itself, become inordinately distended, take a deep purple color, and at length are oppressed, and even choked, with blood; but remove the obstacle, and all things at once resume their pristine state—the heart regains its color, size, and stroke." All this "may be observed more clearly than the noon-day's sun"; and we have before us illustrations of "two kinds of death—extinction from deficiency, and suffocation from excess." The last of these forms of death Harvey recognized several times within two hours of death, and before the color had left the face, in the bodies of men who had been hanged; and he had shown to many witnesses the right auricle and lungs distended with blood, and the auricle in particular as large as a man's fist, and so full that it looked as if it would burst.

Referring to this vivisection of a snake in his second disserta-

tion addressed to Riolan, Harvey describes the vivisection of a fallow deer, at which many of the nobility, and his most serene Majesty the King, his master, were present. The internal jugular vein was exposed and divided, when only a few drops of blood were observed to escape from the lower orifice, while "a round torrent of blood" gushed forth from the upper orifice, coming down from the head.

And here, as lending an incidental interest to the life of Harvey, I may remind you of the many occasions on which our great anatomist and physiologist bears testimony to the personal interest the King, Queen, and Court took in his inquiries. Harvey, as is well known, was allowed to make what use he pleased of the royal herds of deer in his studies both of the circulation and generation; and he tells us how he often showed the King the uterus of the doe in the early stages of conception, and the *punctum saliens* beating "beautifully distinct" in the sun's light; and once also to the King and Queen what he describes as "a most agreeable natural spectacle" derived from the same source. When he comes across a most curious specimen of a perfect egg within a perfect egg, he forthwith makes the King partaker of his delight. And when people tell his serene Majesty King Charles of a certain young nobleman who, in consequence of a fracture of the ribs of the left side, had come to have a large opening there, and a sort of sac, within which, as had been supposed, the lung protruded, Harvey is sent on an errand of inspection; and having discovered that it was not the lung but the heart that had been thus strangely exposed to sight and touch, Harvey, instead of taking to the King a verbal answer, takes the young man himself, "that his Majesty might with his own eyes behold the wonderful case"—this "man alive and well," in whom he might, "without detriment to the individual, observe the movement of the heart, and with proper hand even touch the ventricles as they contracted." Having done so, "his most Excellent Majesty, as well as myself, acknowledged that the heart was without the sense of touch, for the youth never knew when we touched his heart, except by

the sight, or the sensation he had through the external integument." Thus did royalty in the least fortunate of its representatives, and science in one of the worthiest of her sons, mutually do honor to each other, leaving behind them an example which, let us hope, will never fail to influence our kings and philosophers in days to come. Whatever the faults of Charles the First, neglect of science is certainly not to be numbered among them.

The circulation of the blood in parts remote from the heart, Harvey demonstrates by the twofold process of describing the exact forms and positions of the valves of the veins, and making a series of simple experiments on the veins of the forearm, swollen by the ligature of the upper arm applied as in bleeding.

As to the valves of the veins, neither Silvius, their discoverer, nor succeeding anatomists, rightly understood their use. But Harvey, by careful dissection, and passing a probe either way, arrives at the conclusion that "the valves are solely made and instituted lest the blood should pass from the greater into the lesser veins," thus favoring its motion from the lesser to the larger branches, and furnishing a conclusive argument for a circulation.

By applying a bandage above the elbow, as in bleeding from the arm, Harvey shows the site of the valves, and by the pressure of the finger, and "streaking" the blood in one direction and the other, demonstrates their action, and the movement of the blood from smaller veins to larger, always in the direction that leads to the heart. And here, reverting to his favorite argument, based on figures, Harvey bids us select some length of vein, assume it to be able to hold some given quantity of blood, empty it by "streaking"; suppose this process repeated for, say, a thousand times, and then judge for ourselves what quantity of blood must be always passing towards the heart, and what sure evidence its passage affords of a circulation.

We who come to the study of the circulation with minds prepared to accept the evidence of facts and the force of argu-

ments, can scarcely appreciate the difficulty Harvey had in convincing some of his contemporaries, whose minds were preöccupied by certain prevailing errors. I will mention four of them.

The first consisted in imagining a passage for the blood from the right to the left ventricle of the heart through the septum; the second in assuming an equally unreal anastomosis somewhere between the large arteries and veins; the third, that the arteries dilate after the manner of bellows, and so occasion the pulse; and the fourth, that the arteries do not contain and carry blood, but air.

Harvey meets the first of these errors by denying the state of things which they allege, as well as by statements which prove the extent and precision of his anatomical knowledge. As to communications between the two sides of the heart, he does not see them; as to these anastomoses, he searches for them in vain in all the principal viscera, even when he resorts to the artifice of rendering them so friable by boiling, that he could shake their tissue-like dust from even the capillary filaments.

The third fallacy, which attributed the pulse to "a power communicated from the heart through the coats of the arteries, and not to the shock of blood contained within them," thus making "the coats of the vessel the cause of the pulse," rested on the experiment of tying the artery upon a tube inserted within it—an experiment which Vesalius and Galen prescribed, but Harvey really performed. They assumed that the part beyond the tube would not pulsate, but he finds that it does; and, by way of confirmation, adduces the case of a nobleman, his "very particular friend," whose "most attentive physician" he was. From the body of this nobleman Harvey removed a part of the descending aorta, about a span long, with the two crural trunks. They had been converted into bone, and yet he had often noted the pulse in the legs and feet of this patient while he lived. Here was an experiment of Nature's own making; the bony artery was the exact counterpart of the rigid tube,

and yet the facts of the case distinctly contradicted the hypothesis of which Harvey was exposing the unsoundness.

The fourth error Harvey had to combat, instead of being an unfounded assertion, was an inference based upon a fact. I will show you how Harvey refutes this fallacy, and so give you a good illustration of his method of procedure, and bring this, my analysis, to a close.

When Harvey's predecessors opened a dead body, they found the arteries nearly or quite empty, and the veins full; and accordingly they inferred, with Erasistratus, that the arteries contained only "aerial spirits." Harvey begins his work of correction by observing that this empty state of the arterial system occurs only in that kind of death which begins in the lungs, not when the heart ceases to beat and the lungs to act at the same moment of time, as happens in more than one form of sudden death. An universal truth had therefore been assumed from a common, but still only an occasional, occurrence. And these "aerial spirits," with which the imagination had peopled the arterial system, what were they? What their consistency? Are they separate and distinct from the blood and the solids, or mingled with them? Harvey had never been able to find any of them—neither *natural spirits* in the veins, nor *vital spirits* in the arteries, nor *animal spirits* in the brain or nerves. The ancients, need I say? never found an empty space in brain, heart or arteries, but, convinced of Nature's horror of a vacuum, they filled it with spirits. Indeed, they fancied as many spirits as there are faculties or organs. But Harvey saw in these creations of the fancy "the common subterfuge of ignorance," alleging that "persons of limited information" used them, as indifferent poets do the gods, whenever they have a plot to unravel or a catastrophe to bring about: or as the vulgar and unlettered refer the causes of events they do not understand to the immediate interposition of the Deity. If these spirits of which people speak so confidently are of the nature of the air that issues from the breathing organs of animals, then, if an artery or vein from which blood is flowing be

plunged under water or oil, the spirits will show themselves by "a succession of visible bubbles." But this does not happen with the blood, though it does with all drowning creatures without exception.

I have entered thus far into detail, at the risk of being deemed tedious, that I may create in your minds the impression which the study of Harvey's works has left upon my own, that the discovery of the circulation was a discovery in the best and fullest sense of the word. It was no mere hypothesis, suggested by analogy, and supported by a fact or two, destined some day to be cited by some learned man as an anticipation of a discovery rightly so called, but a demonstration complete and perfect up to the extreme limits of our then existing knowledge—a demonstration the more remarkable, for as much as the composition of the "fuliginous vapor" discharged from the lungs was then unknown, and the chemical necessity of a pulmonary circulation unexplained; and the magnifying-glass through which Harvey had seen the movements of the heart in the transparent shrimp taken from the Thames had yet to be developed into the powerful compound microscope through which we now see the unbroken capillary circulation in the frog's foot.

The circulation of the blood, then, was not a discovery merely, but a demonstration: and this demonstration was in part a refutation of ancient and prevalent errors, but also a revelation of new truths wrought out by as felicitous a combination of original talent, acquired learning, and unwearied industry as ever met in one man.

Fresh as I am from the study of Harvey's works, I confess myself at a loss which most to admire, his rare endowments or the use he had made of them. If his natural gifts were great, they were not greater than the resources his industry created. The objects of his study at one time shine in the clear pure light of an unclouded intellect, at another they glow with all the rich tints of a poetic fancy. He is as ingenious in devising experiments, as skillful in performing them. He displays all the

logical acumen of an Aristotle, all the industry of a Hunter. He brings to bear on his subject a large and exact knowledge of anatomy, human and comparative, healthy and morbid, and of intra-uterine life, and he makes, for the time in which he lived, an unwonted use of vivisection. And here I may remark that no thought of cruelty, no misgiving as to the lawlessness of the proceeding, ever seems to have crossed his mind.

But what has impressed me most strongly in studying Harvey's works, is the fine logical faculty which, so to speak, pervades and permeates the whole mass, and struggling for distinct and independent expression, breaks forth into clear enunciations of the principles of that philosophy which the great Italian genius Leonardo da Vinci first announced, and Harvey's contemporary Lord Bacon recommended to the world with all the force and eloquence of a practiced advocate. Harvey, indeed, seems to have carried on together the demonstration of a great truth, and a vindication of the methods by which all truths must be explored and established. So that we have only to search out, extract, and arrange these abstract utterances of his, in order to construct a complete system of scientfic logic; just as we might, if we pleased, bring forth from one part or other of his masterpieces perfect illustrations of all the logical methods which John Stuart Mill arranges in order in his great work on logic.

That Harvey did really claim to be not a discoverer only, but also a teacher of new logic, may be inferred from the very title of the second section of the introduction to his work on Animal Generation: "Of the Manner and Order of Acquiring Knowledge." Indeed, he tells us in express terms that, in treating on animal generation, he is anxious not merely to set forth "the sure and obvious truth," but also to exhibit "the method of investigation" which he followed, in order to "propose to the studious" "a new" and "safer way to the attainment of knowledge." And here let it be well understood, that Harvey seeks rather to revive than to overturn the method of the ancients, whose "unwearied labor and variety of experiments, and

especially the industry of ancient Greece," he warmly commends. Nor does he ignore or despise the logical teachings of Aristotle; for, after giving us his own views respecting "the manner and order of acquiring knowledge" in one chapter, he presents us another with a dissertation on "the same matters, according to Aristotle," whom "foremost of all among the ancients" he follows as his leader.

Harvey, preëminently a practical man; the accurate observer; ingenious in devising, skillful in performing experiments, the practiced logician and acute critic of the views of others about matters which he himself studies and understands, can appreciate the great Greek philosopher whom Bacon, the man of the closet and study, industriously depreciates. This being so, what, you may ask, is it that Harvey complains of in the scientific habits and methods of his contemporaries? what does he find to reform and amend? Aristotle was in the right. Harvey in the main approves his method and his logic. How, then, have Harvey's contemporaries exposed themselves to rebuke and correction? Simply by lacking the industry for which he gives the ancients credit. For Harvey tells us that it was "the custom, or vice rather, of the age" he lived in, that men preferred going idly "wrong with the many" to become industriously "wise with the few." Hence a method of investigating truth "erroneous and almost foolish," content with asking what others had said, instead of inquiring whether things were so or not; substituting verisimilitudes, and "knotty and captious, and petty disputations," for truths; passing off other men's discoveries as their own; their ideas, "false fancies and empty visions," their knowledge "but a waking dream, or such a delirium as the sick fancy engenders." From this sickly state, this idleness and indolence, this lazy satisfaction with existing knowledge, this quenching of the spirit of scientific adventure, Harvey would arouse his contemporaries to exertion. He tells them how they may arrive at the "citadel of truth" by following the traces of Nature, with open eyes, "through devious but most assured ways," rising from inferior to supe-

rior levels, till at length they penetrate into "the heart of her mystery." In this pursuit of truth "it is sweet," he says, "not merely to toil, but even to grow weary," for "the pains of discovering are amply compensated by the pleasures of discovery."

Harvey, then, would fain convert men from idleness to industry. But how is industry to display itself? Not in inventing words, but in observing things. For as there is nothing in the understanding which was not first in the sense (the well-known *dictum of* Aristotle), or, as Harvey puts it, "no certain and definite idea which has not derived its origin from the senses," it is to the senses we must have recourse; first inquiring whether a "thing be or not, before asking wherefore it is," bringing all assertions "to the proof of sense" and admitting or rejecting them according to its decisions. This is the tribunal to which Harvey refers all that he has said respecting the circulation—to the "senses" not to the "reason," to "ocular inspection," not to any "process of the mind"; for "the facts cognizable by the senses wait upon no opinions," "the works of Nature bow to no antiquity, for, indeed, there is nothing either more ancient or of higher authority than Nature" —Nature, as Harvey is never tired of calling her, Nature "ever perfect and divine," ever in harmony with herself, never doing anything amiss or in vain, ever acting with admirable skill and foresight.

And here I am again reminded of Harvey's habit of personification—"a habit born and bred of that fine frenzy" which the discoverer shares with the poet, inspiring him with thoughts of the possible, and so setting him on the track of the actual. For the philosopher, with his "scientific insight," is as truly a poet as if he wrote verses—a poet and something more. Hence we hear without surprise that Harvey, the discoverer, who is found studying mathematics, and working geometric problems within a short period of his death, finds in the pages of Virgil a perpetual spring of rapturous delight. And as the sailor personifies his ship and the engineer his locomotive, and all men

everywhere the sun, moon, and stars, so Harvey puts not life only, but thought, will, and power into the heart and blood. Of this his tendency to personification I have already given one example from his treatise on the circulation. I will add two others from his work on generation. Speaking of the heart, about which he has thought so often and so much, he says: "The vesicle and pulsating point construct the rest of the body as their future dwelling place; 'developed into' the heart, it enters and conceals itself within its habitation, which it vivifies and governs, and applying the ribs and sternum as a defence, it walls itself about. And there it abides, the household divinity, first seat of the soul, prime receptacle of the innate heat, perennial centre of animal action; source and origin of all the faculties, only solace in adversity!" Of the blood, which Harvey saw coming into existence in the embryo before the heart itself, he says, there "is a spirit or certain force" inherent in it, superior to the "power of the elements, very conspicuously displayed in the nutrition and preservation of the several parts of the animal body; and the nature, yea, the soul in this spirit and blood, is identical with the essence of the stars." The blood is "spirit," a something "celestial," "analogous to heaven, vicarious of heaven!"

Here, and not here only, but sometimes when treating of the circulation, often when discoursing on generation, we lose sight of Harvey the discoverer, with his foot firmly planted on the earth, to see in his place Harvey the mystic, floating indistinctly in the clouds, in company with Democritus, Leucippus, and their atoms; Eudoxus and his pupil Epicarus, with their theory of pleasure as the chief good, Empedocles and Hippocrates misleading Aristotle by their doctrine of the four elements; Pythagoras and Plato, interpreters of the fantastic notions of the ancient Thebans. But Harvey is not at home in cloud-land. His fine faculties fail him there. He is not only obscure but inconsistent, reproving in others what he allows in himself; over and over again speaking of occult forces as being of the essence of the stars, and yet objecting to other men that "they

bring gods upon the scene," that they "encumber philosophy with fanciful conceits," and derive from the stars what is produced at home. Sometimes, too, but, it must be confessed not often, Harvey seems to promote to the place of a personal God, whose existence and attributes as creator and preserver he humbly recognizes, some mysterious impersonal force. Harvey has also been accused of credulity in accepting the evidence of an eye-witness (an intimate friend) respecting the existence in Borneo of a race of human beings with tails; and in attributing the dispersion of certain tumors to the application of a dead man's hand. Our anthority for this last statement is Robert Boyle, who says that Harvey told him he had sometimes tried this strange remedy "fruitlessly, but often with good success." It is to Boyle, too, that we are indebted for the information, derived, as he tells us, from Harvey himself, that his dissection of the valves of the veins led him to the discovery of the circulation. For my part, I think the account I have extracted from Harvey's works the most feasible.

Need I tell you that Harvey does not stand alone among great discoverers in thus displaying an easy belief in matters that lie beyond the sphere of their own special inquiries; or that in this case, as in theirs, to take no note of such matters would be to substitute an impossible hero for a truly great man. The portrait of the discoverer of the circulation will not be the worse for a few shadows. They will but make it the more real.

What now remains to be said of Harvey must be said in as few words as possible. Let us first weigh his great discovery in his own scales. This is what Harvey himself says of it: "Reflecting on every part of medicine, physiology, pathology, semeiotics, therapeutics, when I see how many questions can be answered, how many doubts resolved, how much obscurity illustrated, by the truth we have declared, the light we have made to shine, I see a field of such vast extent in which I might proceed so far, and expatiate so widely, that this my tractate would not only swell into a volume, but my whole life,

perchance, would not suffice for its completion"; and again, after noting some of the leading changes in the circulation brought about by causes bodily and mental, he says: "Such a flood of light and truth breaks in upon me here; occasion offers of explaining so many problems, of resolving so many doubts, of discovering the causes of so many slighter and more serious diseases, and for suggesting remedies for their cure, that the subject seems almost to demand a separate treatise." These were no idle words; for in his work on generation, where we should scarcely expect to meet with such statements, Harvey says: "I have occasionally, and against all expectation, completely cured enormous sarcoceles, by the simple means of dividing or tying the little artery that supplied them, and so preventing all access of nourishment . . . to the part affected; by which it came to pass that the tumor on the verge of mortification was afterwards easily extirpated with the knife or the scaring-iron." And then Harvey gives us a case of a fatty tumor of the scrotum, larger than a man's head, and hanging as low as the knees, which he succeeded in removing without sacrificing the important organs involved in it. This case was one of many "accomplished in opposition to vulgar opinion, and unusual procedures"; a statement fully borne out by a perusal of Harvey's works. But even had it not been so, I should have given Harvey credit for being as good a judge of the originality of his methods of treatment as of the justice of his claim to have discovered the circulation. Certain it is that Harvey himself looked upon that discovery as on a very fruitful field, and that his own experience justified him in so doing. And we may take it that he either had written, or was preparing to write, several works on physiology, pathology, and therapeutics, of which the titles are only to be found scattered through his works; but which, had they seen the light, would have proved him to be no idle boaster. His treatise on the circulation would have been enlarged and supplemented by a *Physiology and particular treatise on the Blood*, by *Disquisitions on the Respiration of Animals*, by an essay on *The Causes, Uses, and Organs*

of Respiration, and by a work on *Physiology;* and we should have had the results of his experience as a practitioner set forth in his *Medical Observations*, his *Medical Observations and Pathology*, and his *Medical Anatomy, or Anatomy in its application to Medicine.* Add to this evidence, if not of views committed to writing, at least of ample material collected, the preparations and writings which a puritan mob destroyed, and the books, objects of curiosity, and surgical instruments which the great fire of London consumed, to the irreparable injury of this College, and we have before us proofs of an unwearied industry guided by rare intelligence and practical tact, which it is no injustice to the greatest men who have preceded and followed him to characterize as unrivalled.

If we would judge of the spirit and temper in which Harvey worked, we must listen to the language of his old age, as he takes a mournful retrospect of his first great trouble and heavy loss. "Let gentle minds forgive me, if, recalling the irreparable injuries I have suffered, I here give vent to a sigh. This is the cause of my sorrow; whilst in attendance on his majesty the King during our late troubles and more than civil wars, not only with the permission, but by command of the Parliament, certain rapacious bands stripped not only my house of all its furniture, but what is subject of far greater regret with me, my enemies abstracted from my museum the fruits of many years of toil. Whence it has come to pass that many observations, particularly on the generation of insects, have perished, with detriment, I venture to say, to the republic of letters." This language, so self-restrained, so gently sorrowful, reminds one irresistibly of the plaint of Priestley, who suffered a like injury at the hands of a mob, and of the touching apostrophe of Newton to the little pet that had set his papers on fire. Such have ever been the spirit of those who have done and suffered most in the service of mankind; and I may add that I have been irresistibly struck with the curious coïncidence between the words of Harvey and Priestley, and in the expressions used by Harvey when he reluctantly gave over his manu-

script on Generation to Sir George Ent, and by Jenner when he resisted the first efforts made to transfer him from the modest retirement of Berkeley to the busy turmoil of London life. Nor is the coïncidence less complete between the will of Harvey and that of Howard, in which, after making their humble profession of faith, they prove to their friends and poor dependents that not one of them had been forgotten. But I must hasten to a close, leaving unsaid many things which I had noted as worthy of record.

I began this lecture by presenting to you Harvey, the aged philosopher, endowing the College with his paternal estate, and providing for the annual delivery of the oration that bears his name. It is Harvey, the old man, whose words I shall finish by quoting, and it is Sir George Ent, on the errand that secured for us Harvey's Work on Generation, who speaks: "I found him," he says, "Democritus-like, busy with the study of natural things, his countanence cheerful, his mind serene, embracing all within its sphere." In answer to his salutation, Harvey, referring to the miserable distractions of the time, says: "Did I not find solace in my studies, and a balm for my spirit in the memory of my observations of former years, I should feel little desire for longer life. But so it has been, that this life of obscurity, this vacation from public business, which causes tedium and disgust to so many, has proved a sovereign remedy to me." Again, in one of his letters to Nardi, of Florence, in which he treats of some obscure matters connected with generation, he says: "I myself, though verging on my eightieth year, and sorely failing in bodily strength, nevertheless, feel my mind still vigorous, so that I continue to give myself up with the greatest pleasure to studies of this kind."

To incite the fellows and members of this College "to search and study out the secrets of nature by way of experiment" was, you may remember, a duty imposed on the Harveian orator. What better course, I ask myself and you, is open to him to promote this object, than to present Harvey, the discoverer, in his old age, still finding "the greatest pleasure" in his

studies, and a solace and balm to his spirit in the memory of his observations of former years; realizing to the full the truth of his own words, that the "pains of discovering are amply compensated by the pleasures of discovery."

There sits the aged philosopher, the toil and weariness of the past transformed into tranquil satisfaction, as his mind's eye rests on some spot once dark and barren, now bright and fruitful, bathed in the "flood of light and truth," which he has shed upon it; or peering into the unrevealed future, "dark with excess of light," feeling even then what we know now, that in the sense in which "a thing of beauty is a joy for ever," a truth discovered and established is an everlasting gain, conferring on generations yet to come, in the life that now is, priceless benefits, some by direct application, some through indirect and unexpected developments.

Even in the obscure future, Harvey might have discerned thus much, that through the long stride he had taken among the many steps that lead from ignorance to perfect knowledge, minds that might have continued to be busied and puzzled with the unsettled problem of the circulation, would be set free to engage in other and more profitable inquiries; that no one could henceforth devote himself to the study of any matter relating to the physiology of the human frame, but must own himself in some degree his debtor; that every physician every time he felt a pulse, would have a more intelligent appreciation of its indications, every surgeon who should staunch a hæmorrhage, or tie an artery, or perform an operation, would do it with a firmer hand, in consequence of his discovery of the circulation.

And these annual orations!—may we not venture to hope that in as far as, year by year, they faithfully portray Harvey, in his studious youth, busy manhood, and serene old age, they promote the objects he had in view, supplying with motive, example and encouragement, all who are now striving to render the life that now is longer, healthier, pleasanter, happier, by manifold methods of cure, palliation and prevention; in full

assurance that true knowledge is real power; and that, if we make the discovery of truth our motive, and use intelligent industry as our means, we shall not miss some portion of that rich reward which fell in unwonted measure to the lot of him whose "immortal memory" we honor this day, for this among other reasons, that he conferred upon us, in the full practical sense of the words, the *Discovery of the Circulation of the Blood.*

P. S.—It will be seen that, throughout my Harveian Oration, as now published, I have abstained from the use of notes; for I was anxious to present to the reader a continuous unbroken text. But it is the more necessary that I should acknowledge the obligations I have incurred to the elegant and scholarly translation of the words of Harvey made for the Sydenham Society by Dr. Robert Willis. It is his English version that I quote throughout.

For facts and dates relating to the life of Harvey, I am indebted partly to the same source, and partly to the *Roll of the Royal College of Physicians,* compiled by our learned librarian Dr. Munk.

What I have said on the subject of Harvey's belief in the efficacy of the hand of a corpse, and on the origin of the inquiries which led to his discovery of the circulation of the blood, will be found borne out by reference to *The Works of the Honorable Robert Boyle,* published in six volumes quarto in 1772. The passages to which I have referred occur in vol. ii, p. 167 and vol. v, p. 427.

This handsome and complete edition of the Works of the Christian Philosopher will be found in the library of the College.—*Brit. Med. Jour.*

CLINICAL RECORDS.

"Ex principiis, nascitur probabilitas: ex factis, vero veritas."

ART. I.—A CASE OF ISCHURIA RENALIS, WITH CYSTITIS URÆMIC POISONING—DEATH. By THOS. J. LEE, M. D., of Plattsburg, Miss.

Randal Carter, a freedman, age seventy years, sent to me on the night of April 10, 1875, to send him some medicine for the gravel, and to visit him the next morning. Being unable to gather symptoms sufficient to form any kind of diagnosis from the post, who was an ignorant negro, I thought best to send him simply an opiate until such time as I might be able to see him and ascertain what the therapeutical indications were. I accordingly prescribed morphia sulph. gr. ss., to be given at once.

At 8 A. M., April 11th, I arrived at the patient's residence, and obtained from him the following history. He states that he has not passed any urine in twenty-four hours; that he has great pain in the region of the bladder, and frequent calls to urinate; that his bladder feels as if it would burst from distension. I immediately instituted a very careful examination, which resulted as follows: Pulse 85, and full; temperature 100°; heart and lung sounds normal; bowels costive; tongue heavily coated with fur; considerable distension of hypogastric region, accompanied with pain on pressure. Asking my patient to lie on the bed (he had, during the examination, been sitting up), I introduced a silver catheter for the purpose of drawing off the urine, but, to my surprise, not a drop of water came away. On removing the instrument, I found adhering to it a very tenacious mucus, mixed with blood. My diagnosis was at once formed; instead of having a case of gravel to contend with, as the patient supposed, I had a case of ischuria renalis complicated with cystitis; and after contemplating the very grave nature of the disease, and the advanced age of the patient, the prognosis was very unfavorable, in fact, almost hopeless.

April 12*th.*—Found my patient sitting up, he states that he passed a very uneasy night; has not passed any urine, though he tries often; pulse 92; temperature 101°; bowels have been freely moved by the following:

℞—Hydrarg. Chlor. mit., gr. viij.;
Pulv. Podophylin, gr. i.

Tongue still coated; the introduction of the catheter demonstrates again that the bladder contains no urine.

April 13*th.*—Not much change since last visit, patient seems somewhat comatose; introduced the catheter again with same result as before.

April 14*th.*—Patient is comatose; pulse 100; temperature 102½°; bowels costive; tongue still coated; bladder very much swollen; has passed no urine; I again introduced the catheter, which demonstrated that the bladder was empty.

April 15*th.*—Patient perfectly comatose; pulse 112; temperature 103°; bowels moved once by use of enema; tongue heavily coated and dry, with sordes on teeth and gums; bladder still swollen and painful; I again introduced the catheter with former results.

April 16*th.*—Patient still comatose; pulse 102; temperature 100°; the use of the catheter again proved the entire absence of urine in the bladder.

April 17*th.*—Condition of patient very critical; coma very deep, it being almost impossible to arouse him; pulse 94; temperature 99½°; introduced the catheter again, but found no urine.

April 18*th.*—Coma very deep; pulse almost imperceptible, and not much, if at all accelerated; skin cold and moist, it emits a urinous odor. On the 19th he died. His friends denied me the privilege of making a post-mortem examination.

The treatment in this case will claim but a few words, as the discovery of the true nature of the malady led to no therapeutical indications from which much was to be expected. The treatment consisted of cupping the loins, the hot bath, sudorific medicines, purgatives and large warm enemata, warm fomentations over region of bladder, etc.

Remarks.—The most interesting feature in the case is, that the patient lived nine days with complete suppression of urine, when all authority agree that unless there be a vicarious elimination of urine, death will occur in from twenty-four to forty-eight hours. In the case just reported, there was no vicarious elimination, as the bowels were constipated, and could only be moved by the use of hydrarg. cathartics and purgative enemata. He did not vomit, and his skin was intensely dry and hot until the last day of his life, when it became cool, moist, and emitted a disagreeable urinous odor. I remember that his friends expressed their surprise that so much importance should be attached to so little apparent illness, when I ventured to state that if I did not succeed in making the kidneys act the patient would soon become comatose, and would probably die in two or three days, for this was the course of the malady in every other instance I had seen. My surprise can well be imagined, then, when my patient continued to live for nine days with complete suppression of urine, and with no vicarous elimination. That the urine was suppressed was evidenced from day to day by the introduction of the catheter. I believe it is an established fact, that if no urea be separated from the blood, coma soon supervenes and death. Urea is a mere excrement which in health is removed from the blood by the kidneys as fast as it enters that fluid. When it is not so carried off, it accumulates in the blood, circulates with it to every part of the body, and acts as a poison, especially upon the brain.

This is one of the several cases showing that the carrying fluid of the body may become the vehicle of disease and death, if it be not duly purged of deleterious matter, which pertain to the processes of organic life.

ART. II.—PUMPKIN SEED IN THE TREATMENT OF TAPE-WORM. By S. W. JONES, M. D., Pine Bluff, Ark. [Read before the Jefferson County (Ark.) Medical Society, at Pine Bluff, 1875.

I show you here, gentlemen, a beautiful specimen of tænia solium, that I obtained from a patient yesterday. As the case is typical of two others, successfully treated by myself, and one, the specimen of which I here present you, treated by my friend, Dr. W. G. Wright, with the same remedy, I will give you a detailed history of the case.

Three weeks ago, Mr. S., a native of Germany, aged thirty-two, a resident of America since his fifteenth year, consulted me in regard to some "living parasites," as he termed them, that he had just passed from his bowels. The parasites proved to be fragments of the monster there in the bottle. He had been passing fragments occasionally for two years, and during the last two months this had been of daily occurrence. He expressed surprise when I told him he had tape-worm, as he assured me (and he is a gentleman of intelligence and veracity) that he had never experienced the slightest inconvenience from its presence; that his appetite was uniformly regular and not immoderate; that his bowels were as regular as clock-work, and that he was a stranger to bellyache. He told me that his business engagements were such at that time that he could not spare the time for treatment, but that he would call again as soon as he got through with this press of work. I did not offer any opposition to this course, and awaited the results of the delay. And sure enough, as soon as he became aware of the true nature of his malady, just so soon did his anxiety become great to get rid of it. Accordingly he came to me again, and said that since his first visit he had felt frequent movements and gnawing of his enemy, and had been troubled very much with attacks of pain in the abdomeen. A beautiful illustration of sympathy between mind and body. I took two ounces of decoction of pumpkin seed, rubbed them up with one ounce of white sugar, and added eight ounces of water, and four ounces of mint water, the whole making a delicious emulsion of fourteen

ounces. I directed him to eat no supper, and to take the emulsion the next morning before breakfast, in three equal doses, at intervals of fifteen minutes, and to take the oil mixture (I had prepared him an ounce of castor oil in emulsion) two hours after the last dose of the emulsion. He took the last dose of the emulsion at 6 o'clock. I called at 10, found him asleep, and the oil mixture not taken. I gave it to him then, and called again at 12. He had had no action from his bowels. I repeated the oil mixture and added one ounce of croton to it. I called again at 2, and still the bowels had not moved. I advised a lavement of soap and warm water, which was followed in ten minutes by a very copious action from the lower bowel, but there was no sign of the worm. The patient had taken neither supper, breakfast, nor dinner, and at my suggestion he took a plate of soup and three biscuits of unbolted flour. At $2\frac{1}{2}$ o'clock, eight hours and a half after taking the last dose of emulsion, he had a free action through the alimentary tract, and here is a tænia solium, twenty-one feet long and entire, the result of the treatment—a treatment that has been successful in the four cases herein named, and it is so simple, pleasant, and harmless, that it surely commends itself to the careful consideration of the Profession. Dr. Wright is so well pleased with the remedy, that he says he will never try any other until this fails him, and I heartily agree with him.

The idea that tape-worm inhabits the small intestines seems to be well confirmed in this case, otherwise we should have expected to find some fragments at least in the copious stool that followed the clearing out of the larger intestines by the enema that was administered in this case. The worm was expelled alive, and looked quite plump.

ORIGINAL CORRESPONDENCE.

"Sit mihi Fas scribere audita."

NEW YORK, October, 1875.

Professor E. S. Gaillard:

Dear Sir,—The medical men of New York are now fast returning from their various wanderings, and the societies and colleges have resumed operations.

It has been, on the whole, quite a cool and comfortable summer, and the city has, therefore, been less unpleasant than usual for those remaining at home from choice or necessity.

A smaller number of the Profession than is generally the case have been in Europe this season. Dr. Fordyce Barker always refreshes himself three, for his nine months of unremitting labor, and Professor H. B. Sands has been enjoying himself there on his wedding trip; but we have not heard of many others going abroad.

Of those who take shorter vacations, some prefer entire relaxation from professional work. Thus, Thomas has been rusticating on Long Island, enjoying the shooting and fishing, and *dolce far niente* existence, and Sayre has been off on the cruise of the New York Yacht Club, as the guest of Commodore Kingsland, whose beautiful schooner-yacht, "The Alarm," is one of the finest and fastest in the squadron. Drs. Metcalf, Gurdon Buck, and Woolsey Johnson have also been enjoying their holiday in entire freedom from the restraints of practice. Others have a way of combining business with pleasure, and so arrange their affairs that they will have an opportunity of turning an honest penny at the same time they are receiving all the benefit and enjoyment usually attainable at the fashionable watering-places.

Soon after returning from his California trip, which was a novel and delightful experience to him, Marion Sims went up to Saratoga, and during the greater part of July and August, was at the Grand Union Hotel. We remember seeing him on

one occasion at a hop in the ball-room of the house, when he was inveigled into dancing, much against his will, in order to make up a set of Lancers. His partner was his own granddaughter, a charming little miss of eight or ten summers, and it was truly a picturesque and touching sight to watch the two going through the varied evolutions of the stately quadrille together. At the conclusion of the dance, he was asked by a very beautiful young married lady, much admired at the Springs, if he would not waltz with her. "No; I thank you, my dear," replied the old Doctor, "I know how to do the hugging part very well, but I confess I am not quite up to turning round."

Dr. Lente, formerly of this city, but now of Cold Spring, on the Hudson, was also at the same hotel, and Dr. Jos. E. Jauvrin was at the United States, Saratoga. Dr. Munde, editor of the "American Journal of Obstetrics," attended to the ailments of the guests of the West End, Long Branch, and Dr. Clement Cleaveland was at the Mansion House, at the same resort. Among those who were at Newport, were Drs. C. C. Lee, Wheelock, and D. B. St. John Roosa. Patients obtained in this way at the watering-places during the summer are in many cases retained afterwards, when both the families to which they belonged and the physicians have returned to town.

Some specialists, in whose practice no night work is necessary, take summer quarters for themselves and familes in the country not very far from New York, and come into the city for their office-hours every day, or every few days, as circumstances may require. Among those adopting this plan during the present season were Drs. A. H. Buck and L. D. Bulkley.

The editorial in the "American Medical Weekly" for July 24th on "Floating Hospitals and Baby Encampments," contained much that is true and especially apt at the present time, and it has met the approval of all right-thinking persons; but many of its strictures can hardly be said to apply to the floating hospital of St. John's Guild, of this city; for, while it has undoubtedly given rise to some abuses, any evil which has re-

sulted from the undertaking, we think, can be clearly shown to have been far overbalanced by the good it has accomplished. This enterprise has been organized on such an admirable plan, and carried forward with so much energy and system, that we are confident that its work can not fail to meet with your approval; notwithstanding the fact it has relied mainly on the generosity of the public for support. Without any other begging than the simple announcement of its plans in the daily press, the people of this city have responded with a liberality that has guaranteed the permanent success of the undertaking almost from the first. During the early part of the summer a hospital barge, expressly designed for the purposes of the Guild, was constructed at a cost of $20,000. Its length is two hundred and fifteen feet, its breadth of beam forty feet, and its depth of hold ten feet. It has three decks, of which the lower contains the kitchen, ice-house, store-room, closets, and a dining-room capable of accommodating a thousand persons at once. On the main deck there are spacious reception-rooms, wards fitted up with every convenience for the sick, and a considerable space for promenading, which can be entirely enclosed in case of bad weather. The upper deck, which is covered to protect the children from the sun, is otherwise entirely open, so that the sea breeze has a full sweep over it; and it has a promenading space one hundred and eighty feet long and thirty-six feet wide in the clear. The first excursion of the floating hospital was made in the third week in July, and since that time the trips have been made regularly every Tuesday, Thursday, and Saturday. They will be continued in the same way until the weather becomes cool enough to render them no longer necessary. The tickets for the excursions are distributed gratuitously by the Guild to the various hospitals and dispensaries, and among physicians generally throughout the city, who furnish them to the mothers of sick children in suitable cases. Not only are the *sick* little ones sent, but each mother is allowed to take with her *all* her children under eight years of age, who can not be left at home. The boat leaves the foot of Twenty-

third street, East river, at 8 o'clock A. M., and after making two or three other landings, finally leaves the foot of Thirty-fourth street, Hudson river, at 10:15, returning in time for the women to get supper for their husbands on their return from work. From one to three thousand mothers and children go out each time, and as each person is furnished with two good meals, the expenses for every excursion average about two hundred and fifty dollars. Dr. William Thurman, a gentleman of ability and excellent standing in the Profession, is the medical adviser, and all the requisite attendance on the sick is supplied by an efficient staff of physicians acting under his supervision.

So far as we are aware, there has been no attempt made this season by any of the charlatans of the Profession to gratuitously advertise themselves in the newspapers in connection with the service of St. John's Guild. Just before the excursions of the floating hospital were commenced, the death rate in this city reached its maximum for the year, the mortality among children under five years of age being greater than for any one or two years past; but ever since then this mortality has been steadily diminishing, as a rule. While there are undoubtedly other causes to account for this in part, we think it is not too much to say that the rate of infant mortality has been perceptibly affected during the past month by these excursions. A strong point in corroboration of this opinion is the fact that the alarming number of deaths among children reported in July occurred in precisely the same class of the community for whose relief the floating hospital was designed, and who have eagerly availed themselves of its benefits since the excursions were commenced.

During the present summer, the Board of Health have been waging active, and comparatively successful, war against the prevalent evil of milk adulteration. Their operations in this department of reform were really commenced last November, and were followed by such a good result, that for a considerable period there was but little cause of complaint. At that time

Professor Chandler's lactometer was put into the hands of Sanitary Officers Gardner and Jepson, who visited many milk dealers, tested the quality of their stock, and almost invariably found it inferior in quality to the established standard, which is indicated by the figure 100. In consequence, fourteen venders were arrested for selling poor milk, and thirteen were fined $50 apiece; while the fourteenth, who had sold a mixture of condensed milk and Croton water, was justly fined $200. These examples proved salutary, as the milk offered for sale thereafter was generally up the standard of the lactometer. In the prosecution of such cases, the Health Board was hampered by the inability of officers Gardner and Jepson to testify to the ordinary quality of milk as it comes from the cow, and Professor Chandler was compelled to depose, in each case, as an expert. In July, the milk supplied by the dealers was again found to contain rather too much Croton, and in order to relieve him of this onerous duty, the Board ordered the officers to visit the dépôt (where the milk in the possession of the agents of the dealers was ascertained to average only 90 in quality, as indicated by the lactometer), and then to go in person to some of the principal dairies from whence the milk had come. At the the first dairy-farm where they stopped, fifty six barley-fed cows were kept. In the "spring" the temperature of the cooling fluid was 52°, and the quality of the milk was represented by 114. Two cows were then milked. The temperature of their yield, while still foaming, was 95°, and its lactometer guage 100. When the milk of one of the cows had been reduced to a temperature of 70°, the lactometer reached 102, and when the temperature of that of the other was down to 50°, 120. The "strippings" of these cows registered 90 on the lactometer, and the milk of seven other cows averaged 114. The next dairyman whom they visited had sixty cows, and the milk, at a temperature of 52°, averaged 114. On the next farm visited there were twenty-eight pasture-fed cows, and the milk, at a temperature of 60°, averaged 114. The temperature of the fourth "spring" was 52°. The minimum registry of the milk,

separately tested, was 110, and the maximum 120; the latter milk having been derived from cows which had calved the week before. The cows here were each allowed half a bushel of barley daily. On the fifth farm there were one hundred and thirty-two cows, which were fed partly on barley and partly on pasturage. At a temperature of 53°, the lactometer register ranged from 106 to 116. The sixth dairyman the officers visited had two farms and one hundred cows, the animals being pastured, and occasionally treated to corn meal. Ten cans of their milk, standing in a spring, having a temperature of 57°, showed as high a figure as 120. On the seventh farm there were eighty cows, whose milk, while cooling, registered 112.

The milk of ten of the fifty cows on the eighth and last farm visited, at a temperature of 60° registered 120. The average purity of milk, say the officers, is higher in the dépôts of some of the milk-transporting railroads than in those of others. At the terminus of the Hudson River railroad, for instance, its common register is 86, while at the dépôt of the New York and New Haven railroad it is 95. At the meeting of the Board of Health last week, twenty-three cases of adulteration of milk were reported upon by the Counsel to the Board, and fifteen dealers, against whom the misdemeanor had been clearly proven, were fined $50 each. Two were acquitted, and the cases of the remainder are still under consideration.

Some time ago, in this correspondence, we expressed considerable surprise at learning that Dr. Henry Draper, formerly Professor of Physiology in the Medical Department of the University of New York, was about to desert his profession and go into the cattle-slaughtering business. It now seems that he is President of the "New York Market Company," a corporation with considerable capital to back it, which had organized a "model abattoir," in connection with the great Manhattan market on the west side of the city. Its originators are of the opinion that the true way to make the retail end of the market successful, is to have also a large wholesale trade in the building; and, of course, meat is cheapest where the cattle are killed.

The two main elements of success, capital and trade connection, seem to be combined in this enterprise, and it may be that "there's millions in it." About 2,000 cattle are now killed in the building every week, and the rendering of their offal being accomplished while it is perfectly fresh, does not occasion any offence, notwithstanding the heat of the weather. Indeed, so complete are the arrangements for slaughtering them, that the animals are said to really enjoy the operation, and would be sorry when it is over, if they only had time.

It may, perhaps, be remembered that last February the Commissioners of Charities and Correction, in answer to an appeal made to them by several hundred citizens and tax-payers to designate a hospital to be under the care of homœopathic practitioners, assigned to them the Riverside or Small-pox Hospital on Blackwell's Island, in case the Board of Health would give it up. This, for obvious reasons, that Board declined to do, and the Commissioners have now been induced to devote to the homœopaths a portion of the building on Ward's Island, heretofore known as the Inebriate Asylum. This has recently been occupied as a Soldier's Retreat, but has just been made vacant by the distribution of the inmates to National Homes. The new Institution will be opened on the 10th instant, with a grand flourish of trumpets, as the "only homœopathic charity hospital in the world"; which, we must say, does not speak very much for the charity of the followers of Hahnemann. At first, there will be four hundred beds, but they can afterwards be increased to eight hundred, if necessary. We doubt not that it will be some time before such necessity arrives. Perhaps it will be just as well for our homœopathic friends that the same custom does not prevail here as among some Indian tribes. At Inyo, California, we read that an Indian physician was badly stabbed and shot lately by a member of his tribe, because of his failure to cure his third patient. This, according to an old tradition, authorizes the nearest relative of the dead man to kill a physician at sight.

Faithfully yours,

STAR.

New York, October 28, 1875.

Professor Gaillard:

Dear Sir,—The rival medical colleges, like the rival theatres, have now entered with a great flourish of trumpets upon the season of 1875–6, each offering to the public a list of "greatly increased attractions." Of course, in the way of appointments for the facility of the study of medicine, the Univarsity, with its fine new building, carries off the palm this year, but there seems to be already an unusually large number of students at all the colleges, so that there is no immediate danger of the Profession in New York and the vicinity entirely dying out.

The course of lectures at the new college was appropriately inaugurated September 28th, in the presence of a large audience, including many ladies, by an address by the Rev. Howard Crosby, D. D., LL. D., Chancellor of the University, who is known as one of the most graceful speakers in the city. He took for his subject the "Ethics of Medical Men," and the effort was characterized by a happy combination of wit and wisdom, with a strong substratum of plain common sense.

The opening exercises at Bellevue College, with an introductory address by Professor Peaslee, took place on the following evening; and those at the College of Physicians and Surgeons, October 1st. In the account of the latter, in one of the morning papers the next day, it was announced that "Mr." Alonzo Clark presided, and that the address to the students was made by Dr. Cornelius R. Agnew, "Chemical" Professor of Diseases of the Eye and Ear.

All the societies, too, are now once more in full blast. At the September meeting of the County Medical Society, the paper was by Dr. Beverly Robinson, on "Post-Nasal Catarrh." As is not infrequently the case with such productions by young men (and some seem never to get over the failing), the first part of it was devoted to "glittering generalities," but, in the main, it was a very good paper. The Profession was divided, he said, on the question whether this was a local or a general disease. Its pathology is not understood as well as it ought to be, and

this is due, in a great part, to the lack of knowledge derived from post-mortem examinations. Dr. Robinson regards the affection as a chronic follicular disease of the naso-pharyngeal, cavities, dependent, to a great extent, on the state of the general system. It seems to be induced by repeated attacks of coryza, some persons being especially predisposed to it. Its characteristic symptoms are a constant feeling of stiffness in the nasal fossæ and a viscid stinging muco-purulent discharge from the posterior nares, down on to the soft palate, and over the posterior wall of the pharynx. In time, a repulsive odor results from the decomposition of the masses of accumulated mucus and pus, and this decomposition leads to ulceration of the tissues with which the material is in contact, which may eventually produce necrosis of the bone beneath. In order to accomplish a cure, the treatment must be constitutional to a large extent. In nearly all cases, tonics are necessary, and of these the most useful is cod-liver oil, iron, quinia, and strychnia, in conjunction with cold bathing and out-door exercise. Dr. Robinson has given an extensive trial to all the medicaments which are supposed to have a special effect upon the mucous membranes, such as the muriate and carbonate of ammonia, squill, copaiba, cubebs, iodide, of potassium, ammoniacum, guaiac, etc., and has found three of special benefit—sulphur, cubebs, and ammoniacum. He constantly uses the sulphur water of Sharon Springs, and believes that sulphur is much more beneficial given internally than as a local application. Of cubebs he formally employed the oleo-resin, but has since found the powder much more efficient. The following is a good formula for its exhibition:

℞—Pulv. Cubebæ, ℥ij.;
Syrupi Aurant. Cort., f. ℥iij.;
Aq. Menth. Pip., f. ℥ij.;
Aquæ, f. ℥iij.

S. Tablespoonful every three hours.

It sometimes causes nausea, diarrhœa or a slight eruption on the skin, but these may be easily arrested by diminishing the

dose. The use of the agent should be persevered in for a long time, but at intervals it should be discontinued for a few days. Ammoniacum may be advantageously combined with ipecacuanha and carbonate of ammonia, and is very serviceable in diminishing the secretion. When there is a constitutional taint of any kind suspected, the treatment must, of course, be modified to suit the circumstance. To patients suffering from malaria, fifteen to twenty grains of quinine should be given daily, gouty diathesis, guaiac in sufficient quantities. When syphilis is present, Dr. Robinson thinks a long continued and systematic course of mercury (preferable the bichloride and biniodide) is imperative, whatever may be the stage of the disease. He had little to say in favor of iodide of potassium, whether the patient was syphilitic or not. At first it causes great congestion of the mucous membrane, and perceptibly diminishes the secretion, but afterwards the discharge becomes excessive, the symptoms resembling those of acute catarrh, and there is no permanent improvement whatever. When there is scrofula or tuberculosis, cod-liver oil and a change of air offer the best chances of success. For local application an infinite number of substances have been suggested, but the variety and uncertainty seen in the practice of different specialists show that we have as yet no specific. Indeed, Dr. Robinson thinks that local treatment has been altogether overrated, and that while it may form a useful adjunct to general measures, the principal dependence must be placed on the modification of the constitutional condition. This he regards as the only rational method of treating post-nasal catarrh. Personally he has given up all forms of the douche, and in a paper published by him last spring, he stated his objections to it at length; the three principal ones are as follows: (1) It can not possibly reach all parts of the Schneiderian membrane; (2) solutions of astringents, caustics, etc., can not be used in sufficient strength to do much good, on account of the great pain and annoyance they occasion the patient, an important consideration when it is necessary to repeat the procedure so often; (3) the douche is apt to occasion serious

impairment of the organs of hearing and taste. He, therefore, prefers the use of powders and sprays, which can be applied to as great an extent of the pituitary membrane as the douche, with no danger of causing otitis, while there is the positive advantage of being able to use them in concentrated form without occasioning the same annoyance to the patient. The spray should be applied at the temperature of the atmosphere the patient is accustomed to breathe, and should not be used in sufficient strength to do mischief. A useful combination is that of carbolic acid with borax, in glycerin and water, which may be used with great benefit when ammoniacum is being given internally, as it prevents the masses of mucus from becoming hard and dry. One of the best applications in the form of a powder is a mixture of camphor and iodoform. The dry vapor of iodine, carbolic acid, and the essential oils can also be advantageously employed in some cases. Still, no local treatment can possibly restore the diseased follicles to their normal condition, as this can only be accomplished by persistent constitutional treatment, including a good hygienic régime.

Dr. L. D Bulkley mentioned disorder of the liver, as a frequent cause of nasal catarrh, and one to which Dr. Robinson had not alluded. His attention was first called to the subject in Murchison's lectures on Functional Diseases of the Liver. In his own person he had always been subject to the exact symptoms Dr. Robinson had described whenever he was bilious and his digestive powers impaired, and on investigation he had found this was true of a large number of his patients also. Many of those suffering from eczema, acne, and psoriasis, accompánied by lithæmia and derangement of the liver, were also affected with catarrh, which he had now learned to attribute to the same cause. In such cases he had found great benefit to be derived from the simple inhalation of steam impregnated with the compound tincture of benzoine. The method he recommended was to put a teaspoonful of the tincture (to which a little laudanum might be added, if there was much irritation of the fauces) in the bottom of tin pan, and

then pouring a pint of boiling water upon it, let the patient inhale the vapor. This simple and inexpensive method might be repeated as much as twenty times a day with great benefit.

The season at the Medical Library and Journal Association was inaugurated by a paper on "Ancient and Modern Inunction in Health and Disease, by Dr. E. C. Angell, which was full of suggestiveness. He first gave a historical sketch of the custom among the Jews, Greeks, and Romans, and of its medicinal use by Galen and others. It was carried to the greatest perfection in the days of the Roman Emperors, and Dr. Angell gave an amusing anecdote in regard to the Emperor Hadrion, who, while at the baths one day, noticed a soldier rubbing himself against the marble wall. On inquiring what the reason of this was, the man replied that it was because he could not afford to get anybody to perform the rubbing for him, whereupon the Emperor assigned to him two slaves, and promised to pay for their maintenance. The next day he found two mendicants in the same place industriously rubbing themselves against the wall, and, no doubt, expecting the same treatment from the Emperor; when, what was their disgust to hear him complacently suggest that they had better go to rubbing one another.

Coming now to modern times, we find much said in regard to inunction in Dr. John Bell's treatise on Baths, and about twenty-five years ago Dr. Taylor wrote a work on its use in fevers in the Clerkenwell Infirmary. Between 1837 and 1849 there were several hundred fever patients, yet not a single death occurred (in idiopathic cases), while in one month in 1836, before inunction was practiced, there were twelve deaths from typhus fever alone. Internal treatment was also used in these cases, but one young woman, suffering from a bad attack of typhus, refused to take any medicine whatever; was treated exclusively by inunction, and made a good recovery in twelve days. Its efficacy was furthermore tested in the case of Dr. Taylor himself, who also passed through a severe attack of typhus successfully without any other treatment. The substance

he generally employed for inunction was what he called lard ointment, a mixture of equal parts of lard and suet melted together to about the consistency of tallow. It had a marked effect in bringing down the pulse and reducing the temperature, and produced a feeling of comfort very grateful to the patient. He regarded it as safer than the cold or vapor bath, it being seldom or never contra-indicated, and he thought he was often able to abort and break up fevers by this means. He usually had the inunction, which was kept up from a half hour to an hour at a time, made twice a day, and oftener in urgent cases. He also employed it with great benefit in rheumatism, phthisis, hydrocephalus, dropsy, etc. There is not much literature on the subject in this country; but a remarkable paper was published by Dr. Fisher, of Hoboken, in the "Record" for March, 1875, in which he stated that the life of a child, who was in the last stage of cholera infantum, was apparently saved by this means. He had also employed it very successfully in the treatment of chest affections and other diseases. Dr. Angell spoke at some length of the indications inunction fulfilled, and of the variety of cases in which he had made use of it, in connection with the baths, which he has conducted in this city for a considerable time. He has been especially successful with it in the treatment of hysteria, insomnia, and delirium tremens. Even in mild cases of insanity it seems to have been an efficient agent in many instances. Dr. Taylor noticed that a patient suffering from scabies, and who was also slightly demented, recovered her intellect entirely after a three weeks' course of sulphur inunction, and this led him to employ inunction in other cases of insanity. One of the most remarkable qualities of the process, said Dr. Angell, was that of supplying permanent warmth to cold surfaces and extremities. Many invalids, especially dyspeptics and those suffering from weak chests, who had formerly been obliged to leave their business and family and go South every winter, were by this means happily enabled to remain at home, and now actually enjoyed the artic weather, which before had been such a terror to them. He mentioned

also the immunity from colds obtained through it. Dr. Bell, in his treatise, spoke of this in those whose occupation brought them in contact with fats and oils, and Dr. Angell gave an illustration of this as furnished by the employés in a cotton-seed oil-mill at Cosheb, Conn. The men who work in the press-room were entirely free from all pulmonary troubles, even in the most inclement weather, and gained greatly in weight and muscular development; while such was not the case with those who worked outside. Some of the most remarkable effects of inunction were seen in cases of atonic dyspepsia, with low spirits, loss of appetite, etc., which had resisted all other treatment for months or even years. In less than a month one young man was perfectly restored, and gained twelve pounds; and another, now under treatment but ten days, is already practically well, having gained seven pounds in that short time. For the last two years Dr. Angell has employed a refined form of vaseline (derived from petroleum) in his inunctions; though a mineral oil, it is rich in the heat and fat-producing and antiseptic properties of carbon. The objection that inunction closed up the pores and interfered with the action of the skin, he had found to be wholly unfounded. On the contrary, when it is well performed, it increases all the functions of the skin. In conclusion, he spoke of the immunity which it gave from the danger of contagion, and suggested that physicians should employ it on their own persons when more than ordinarily exposed. Oleaginization, he believed, had still a very important future before it.

Dr. J. C. Peters said he was familiar with Dr. Taylor's book, but he thought he was altogether too enthusiastic on the subject. He acknowledged that the method was pleasant and useful, but while it might abort or cut short ephemeral or simple continued fever, he believed it to be impossible in typhoid and the other specific fevers. He spoke of its great efficacy in scarlatina and measles, to which Dr. Angell had not alluded.

Dr. Rogers mentioned that Professor Wm. H. Thompson, in his lectures at the University, strongly recommended inunction

in many affections. For instance, in dropsies, when the skin was so hard and the circulation so much interfered with that it could not be made to sweat, even in a hot vapor-bath, if the patient was well rubbed with oil and then put in the bath, the most copious perspiration could immediately be produced.

Dr. Peaslee believed that the respiratory, secretory, and excretory functions of the skin were all increased by the process of inunction (when it was not acting properly), and he could, therefore, see how it might be of the greatest service in any case where the skin was hard and dry, whether it were hot, as in fever, or cold, as in atonic dyspepsia, etc. For this measure simply supplied what was lacking when the skin was in an abnormal state, and without some such means to restore it to a healthy condition, it was impossible for it to perform its ordinary functions. He expressed himself as much pleased with the paper, which, he said, contained much that was new and suggestive to him.

Dr. Hammond lately exhibited Lourbard's thermo-electric differential calorimeter at the Neurological Society, and spoke of the results of its application in certain physiological conditions and diseases of the nervous system. The instrument consists of a very delicate galvanometer, with a graduated scale attached, connected with two small thermo-electric piles, which are composed of zinc, antimony and bismuth. When these piles were placed on surfaces of exactly the same temperature, the needle would remain stationary, but the instrument was so delicate that a difference of only one-thirty-fifth of a degree was indicated by it. It will thus be seen to be infinitely superior to the best surface thermometers in detecting slight elevations or depressions of temperature. Dr. Hammond has made a series of observations with it, and believes that some of the results he has obtained have not been before noted. Thus, he finds that the normal temperature of the female is about three-quarters of a degree higher than that of the male, and that in children it is about one degree higher than in adults. The temperature of the left side of the head

is, as a rule, higher than that of the right side, but the rest of the body below the neck is warmer on the right side than on the left. The ingestion of food caused a rise of one degree of temperature in the head. Alcohol at first also caused an elevation of temperature, but this was followed in about half an hour by a corresponding depression. In Graves' disease, migraine, and neuralgia, there was marked increase of heat in the parts affected, but in a few cases of cerebral hæmorrhage (not recent), injuries of the spine and paralysis noted, there was depression of temperature. In hysteria no constant results had been observed. The cost of the instrument is about $40 or $50.

At his Clinic, last week, Dr. Sayre brought before the class a little girl on whom he had performed exsection of the hip-joint the week before. She was still, of course, in the wire breeches, and although it was a desperate case, she has been doing well, and already looks very much improved. He then proceeded to perform the operation in a child only three years old, it being about eight months since the mother first observed any trouble in it. He once operated on a baby of eighteen months, and though it seemed a hopeless case, the child made a beautiful recovery. With the first incision in the present instance he cut into a large abscess. In the joint he found a considerable mass of involvence, and the head and neck of the femur were entirely gone, so that no sawing was necessary. Nature had, in fact, performed the exsection herself, but, said he, if we had waited for her to complete the cure, the little patient would in the mean while have succumbed. It was, therefore, only necessary to smooth off the roughened edges of bone with a gouge and remove some little projecting pieces of the ilium. Dr. Sayre said that this was the fifty-seventh case of exsection of the hip of which he had a complete record, but that he had operated on four other cases in addition—one in London, and three for other gentlemen in this country. Of the whole number, fifteen are dead. Three died within six weeks after the operation, but not on account of it; and the other twelve

from different affections at various intervals up to ten years after the operation. After this case had been dressed in the usual manner, Dr. Sayre introduced a young woman, twenty-one years of age, suffering from Potts' disease. The process was still going on, as was shown by the fact, that when she was supported by the shoulders, the weight being thus removed from the affected vertebræ, she at once obtained immunity from pain. There was a large abscess on the anterior and outer aspect of the thigh, but careful examination showed that the hip-joint was entirely free from disease. This, then, was a femoral abscess, resulting from a psoas one, which was dependent on the disease of the spine; as, indeed, could be further demonstrated by making firm and continuous pressure about the abscess, when it became diminished in size by the pus being thus forced up along the track by which it had descended. This patient was four months pregnant, and, therefore, no active interference could be made for the present in her case. Her constitution was in a wretchedly depressed condition, so that it was necessary that she should have the most active supporting treatment.

Dr. Sayre is meeting with remarkable success in the treatment of Potts' disease with the plaster of Paris bandage. He has recently used no other method, and thinks it is destined to entirely supersede the various forms of expensive apparatus hitherto employed.

The death of the distinguished surgeon Dr. Ernst Krackowizer, in the prime of his usefulness, is a severe loss to the Profession, and is universally lamented, especially among our German population, by whom he was much beloved.

Faithfully yours, STAR.

A LETTER IN FACSIMILE OF HARVEY. Collected by J. H. Aveling, M. D., Physician to the Chelsea Hospital for Women, Honorary Librarian of the Obstetrical Society of London, etc. —It is with the greatest pleasure I now have the opportunity of giving in facsimile a letter by Harvey. Specimens of his

writing are very rare, and if the memorandum at the back of Dr. Ward's letter, which has no signature, be excepted, it is the only letter in Harvey's own handwriting of which we have any knowledge. For those who are not accustomed to reading seventeeth century writing, a copy in modern characters is given:

Right Hon^{ble}

it is more then time then to give yo^{r} hon^{r} thankes for you^{r} favour & benefites to me, reseyved, when I am to com wth a new sute. but it (being, butt the consum̄atinge & pfecting what by you^{r} favour I have reseyved already); giveth me the confidence to write att this time, intreating yo^{r} Hon^{r} to be my mediator to his maiesty that, my patent being stopped att my Lo. Treasurers (a bysines I am enformed yo^{r} Hon^{r} is already acquainted wth) y^{t} he would be pleased in his gratious favour vnto me, to lett it be, as already it is for my life, according as the rest of my fellows have, & as by you^{r} Hon^{r} extraordinary favours to me you have made me yo^{r} obliged servaunte for ye would be pleased to protect me. it is written to me besides that one D^{r} Mezler hath gotton to be appoynted to wayte in my place for the household (before I went I entreated & appoynted D^{r} Chambers & Doc^{r} Bethune,* and one Doct^{r}. Smith of London, one of them att all occasions to pforme that duty for me; & I acquaynted the officers of the howsehold therwth, it is not vsual: fo^{r} serieant primrose was away above a yeare (& he is surgeon of the howshowld) & yett none putt in his place to wayte whilest he was in Germany wth my lo. Marquess. S^{r} Theod. Maiern, in Switzerland in K. James his time, was away very long & none putt in his place. I beseech your honnor y^{t} noe preiudise arise thereof to me, according (as I humbly thanke yo^{r} Hon.) the K. Maiesty made to me his declaration, noe such thinge should be done, by yo^{r} Hon^{rs} mediation. the miseryes of the Cuntryes we have passed and the hopes of our good success & all such news yo^{r} Hon: hath from better hands, I

* Drs. James Chambers and David Bethune were physicians in ordinary to the King.

can only complayne, that by the waye we could scarce see a dogg crow kite Raven or any bird, or any thinge to anatomise only sum few miserable people the reliques of the war & the plauge where famine had made anatomies before I came. it is scarce credible in soe ritch, populous & plentifull cuntrye as these weare that soe much misery desolation & poverty & famine should in soe short a time be as we have seen. I interpret it well, y wilbe a greate motive for all heare to have & pcure an assurance of a setled peace. it is time to leave fighting when, there is nothing to eate nothing to be kept & gotten & the same partyes robb on the other if they gett but once out of sight.

Yr Hon:

Humble servant

Will. Harvey.

This interesting letter is now preserved at Oxford in the Bodleian Library amongst the Clarendon Papers, No. 2,076.—*Obstet. Jour. of Great Britain and Ireland.*

Rooms "Henderson Medical Club,"
Henderson, Ky., Oct. 8, 1875.

Dear Doctor:

At a meeting of the Henderson Medical Club, held on the 9th day of August, 1875, we were appointed a Special Committee, with instructions to prepare and forward a Circular Letter to the physicians throughout the State. Our purpose is to procure the passage of an act by the next General Assembly, in which the claims of physicians incurred during the last illness of the decedent shall be classed with those having precedence in the settlement of estates. During the session of 1870–'71 a bill to this effect was introduced in the Senate, and passed with but little discussion. It was then taken to the Lower House. Being near the close of the session, and much business being before that body, it was tabled, and has never been resurrected.

We feel that this is a matter of interest to every physician in the State, and that justice demands that some legislation in

this direction is justly due us. The exemptions under the law are very great now. In this bill nothing will illegally or unjustly be taken from the widow or the orphan.

Under the law, as it now stands, if the personal estate of a decedent be not sufficient to pay his liabilities, then the burial expense of such decedent, and the cost and charges of the administration of his estate, shall be paid in full before any pro rata distribution shall be made. All other debts are of equal dignity, and paid ratably in the administration of the estate. Attorneys at law have a lien upon any choses in action, account, or other claim put into their hands for suit or collection; and when they are employed in any suit, which is prosecuted to recovery, they have a lien upon the property which may be recovered in the action, for any fee agreed upon by the parties; or, in the absence of such an agreement, for a reasonable fee.

You will thus see that, under the present legislation, the undertaker is secured in his demands; the merchant is sure of his claims for burial clothes; the administrator, the judge, and the clerk are alike given precedence—whilst the lawyer is certain of his fee; but the physician, who waits upon the dying man, and watches over him through sleepless nights with anxious solicitude, in the discharge of his humane duties, in many cases receives no compensation. This is unjust, and we propose, by concert of action and a united effort, to impress upon our legislators the equity of our demands.

We would earnestly impress upon you the importance of this step, and through you and the physicians of your county, urge your active efforts in behalf of this measure, and sincerely request you to interview your Senator and Representative, to secure, if possible, their support in the passage of this bill.

Hoping you will see the importance of the step we are taking, and give it your hearty support,

We are, very respectfully,

J. W. Pritchett, Madisonville, Ky.;

James H. Letcher, Henderson, Ky.

An Open Letter.

Louisville, Ky., October, 1875.

Dear Doctor:

Your letter does you great injustice; it does me more. You subscribe for a journal whose terms are on the cover of every number—"yearly in advance." To the Appletons', Lippincotts', Woods', Bennetts', Harpers', etc., you would send the price of subscription without a word; if you did not, you would certainly not get the periodical desired. These are unprofessional people. To me, a professional brother, you sent nothing in advance. I, on the contrary, advance money for you. I receive no thanks for this, not even any consideration. I waive my rules in your favor and send my Journal to you, not at your expense, but mine. When you force upon me the pain and expense of sending several bills, I receive a letter enclosing the amount due and stating that you "do not like to be persistently dunned." Most of the delinquent subscribers very properly send with their money regrets or explanations for their delay in discharging an obligation and a duty voluntarily assumed. These are the two sides of the picture as seen in my office. You have signed yourself as my friend, and I have taken a friend's liberty of "holding the mirror up to nature," that you may look squarely into it. How do you like what you see? Reverse our labor or relations, and tell me what would be the change in your views and opinions. Physicians who are editors simply ask of their brethren that they should extend to medical journals thus edited the same punctuality that is manifested toward unprofessional publishers. If they will but do this, they will at once remove a great deal of care and expense from those of their brethren who are connected with the medical press. Above all things, when medical editors waive their rules in behalf of their brethren, and then ask for money over due, never let it be again stated that those receiving such courtesy object to being reminded to pay an honest and neglected debt.

Truly yours, E. S. G.

ANALYTICAL DEPARTMENT.

"Qui e nuce nucleum esse vult, frangit nucem."—PLAUTUS.

Lead Pellets Substituted for Pharyngeal Forceps in Search of Impacted Bone in the Œsophagus with Successful Result.—By Robert Torrance, L.R.C.S.E., Matfen.—The following history illustrates one of those cases where the surgeon is at times placed in a dilemma, while he also must exercise the most peremptory means in his power for the recovery if possible of his patient. On Tuesday, the 11th ult., I was requested by a farmer to go hurriedly and visit his wife, Mrs. M——, of this parish, who, to use his own provincialism, was afraid she would "soon be fettin away" unless relief was very soon procured. On hastening to the house, I certainly found the patient in a very distressing condition. The countenance had a very characteristic expression of anxiety, and great weakness had resulted from the deficient supply of nourishment for four days previously. While she was eating a piece of rabbit pie for dinner, by some unaccountable means part of the shoulder-blade became lodged in the œsophagus. With great difficulty she swallowed large doses of castor oil for the first two or three days, for the purpose of acting as an emetic in her endeavor to induce its expulsion before seeking aid; but all were of no avail. On the third day there was considerable abatement of the symptoms, but only to be followed the next morning by sudden spasm of the glottis, alternating with what appeared to me to be inordinate contraction of the muscular fibres, from the hissing noises produced in the throat. All this, however, resolved itself a short time afterward by the use of hot baths and antispasmodic medicines, though some time elapsed before a succession of different-sized bougies even could be passed.

As the patient was very weak, the fauces were first irritated by a feather, thinking this might be sufficient to induce violent expulsive efforts, and carry out the foreign body; but this had no effect whatever, but to increase the patient's agony. A

stimulant emetic of mustard and water was next administered with some effort, as she was still unable to perform the act of deglutition, the attempt causing her great pain; and it was only by throwing the head well back and allowing it to be poured in gradually that we succeeded at all, but only to meet with a similar result. The pharyngeal forceps were then introduced, finding their way a little lower down than the commencement of the œsophagus. Seizing the bone, I made sundry efforts to dislodge it by varied traction power, but was obliged to desist, becoming alarmed by a pretty profuse discharge of hæmorrhage from the mouth. Two courses only were left to me now, either to trust to removal by the ulcerative process, which would soon have (if it had not already, from the foregoing symptom) been excited by pressure on the tissues concerned, or to perform œsophagotomy. While debating with myself as to which of these should be adopted, I devised a contrivance for the purpose which, I am happy to say, proved effective. A few lead pellets were procured, and I had them firmly secured at the distal end by the ordinary suture wire. As the patient was unable to swallow, the pellets enabled each wire to find its way down the canal, the meshes of the whole becoming entangled with the bone, probably in different parts; and, by pulling two or three of the wires at the proximal end, varying them now and again, the bone was released from its position, much to the delight of the patient, and not less so to my own satisfaction. There can be little doubt, I think, that during the four days of delay, from the pressure and irritation of the bone, unorganizable matter had been effused into the coats of the gullet, and had more or less caused their contraction and thickening, thus rendering its extraction somewhat more tedious than it might otherwise have been.—*British Medical Journal.*

Enlarged Prostate Mistaken for Calculus.—M. Ripault, of Dijon, was called to assist at an operation for stone. The patient was an adult, in whom all the usual symptoms of calculus were present: the characteristic sound occasioned by striking the

sound against a hard body was distinctly heard by several persons, and the existence of a stone undoubted. The lateral operation was performed; the bladder was opened, but the forceps, several times introduced, brought away nothing but clots of blood. An encysted stone was suspected, but the operation was discontinued. Nevertheless, the pains which the patient previously experienced ceased for some months, after which they recurred with greater violence; difficulty of micturition increased; the urine became ammoniacal; fever set in; and the patient died six months after the operation. On post-mortem examination the prostate was found enlarged, composed of tough fibrous tissue, very horny on section, and when struck with a sound gave the same sensation as was experienced during life.—*Medical Times and Gazette.*

NOTE.—In this city the promontory of the sacrum of a child has been mistaken for a calculus. E. S. G.

Case of Paracentesis Pericardii—Iodine Injections.—By G. E. Moore, M.R.C.S., House Physician to King's College Hospital.—The following case of suppurative pericarditis occurred in the practice of Mr. E. Pearl, of Windsor, who kindly permitted me to watch and share the treatment with him.

I need not detail the pericarditic symptoms; suffice it to say, that the patient, a strong lad, aged thirteen years, living in Windsor, was taken ill on the 15th of last October; that ten days after a loud "to and fro" friction-sound was heard, which was soon followed by extension of the area of pericardial dullness; that, from October 27th until November 7th, he gradually got worse, in spite of the application of all the ordinary methods of treatment; and that the heart-sounds became fainter and more distant, with gradual diminution, ending in complete subsidence of the pericardial rub. An abscess formed on the dorsum of each foot in the second week of the disease.

On November 8th Dr. George Johnson was called in consultation. He diagnosed suppurative pericarditis, and agreed in the proposal to perform paracentesis, as, under ordinary treatment, the case was sure to prove fatal.

On November 9th, before the first operation, the boy was very exhausted, and desirous of some relief. There was great dyspnœa. Respiration 50 in a minute; pulse 160, very irregular. The præcordium was prominent. The heart-sounds were a confused murmur, heard only at the base. There was extensive pericardial dullness. Paracentesis was performed by Mr. J. W. Gooch, of Eton, with the aspirator, the previously formed vacuüm being put in communication with the needle as soon as the distal aperture had passed through the skin. The puncture was made in the fifth left intercostal space, just internal to the normal situation of the heart's apex, and the needle was directed inward, upward, and a little backward. By this means twenty-one ounces of purulent fluid were drawn off. During the withdrawal of the fluid the patient complained only of the needle pricking in the skin; there was not the least symptom of syncope, and he expressed himself as much relieved. Immediately afterward the respirations came down to 30 a minute. The pulse was 120, much stronger and regular. For about twenty minutes there lasted an incessant cough, with a little viscid frothy sputum. Normal heart-sounds could be heard both at the base and apex. The pericardial dullness was diminished to almost the normal limits.

On the 10th and 11th he seemed much better.

On the 13th the pulse was again irregular, intermitting every third beat.

On the 14th the physical signs indicated great increase in the fluid, and the operation was done a second time, thirty-five ounces being drawn off. The patient again expressed himself as being greatly relieved.

On the 15th the boy seemed much better. He had passed a good night; and symptoms of œdema of the left lung, which had previously appeared, were less marked.

From the 16th to the 20th he gradually relapsed, and an offensive and exhausting diarrhœa came on, which was checked by a little chalk mixture.

On the 21st the dullness then extending up to the clavicle and

quite around from the right mamma to the spine behind, paracentesis was again done for the third time, and sixty ounces of purulent fluid were again drawn off. We then injected slowly, by reversing the action of the aspirator, two ounces of a mixture of one part of tincture of iodine to two parts of water, previously warmed to the temperature of the body. We intended to remove half of this; but on setting the vacuüm in communication with the pericardial cavity, air entered by the side of the needle, which, from the longer retention than usual, had become loose. The needle was then withdrawn, and the injection left in the pericardial sac. The patient complained of no pain at the time, and was not aware until afterward that anything had been injected. During the next half hour he expressed himself as much relieved, and in no pain. Pulse 118; respiration 28. The cough came on for a short time as before.

On the 22d and 23d the patient seemed much better; his appetite improved, and his pulse became stronger and more regular. The air which had entered the pericardium gave rise to a tympanic note on percussion, and the "mill-wheel" sound was heard all over the front of the chest, quite obliterating the normal heart-sounds. This continued until the 27th, when sudden symptoms of increase in the effusion were observed.

On the 30th his parents described him as having had fits of syncope, in which he became quite livid. His breathing was very labored. A friction-sound, synchronous with the respiration, was then heard at the front of the base of the left lung.

The next day, December 1st, we tapped for the fourth time, making the puncture as nearly as possible at the same spot, but avoiding the old ones, and drawing off fifty ounces of pus and the little air that had entered at the last operation. There was no offensive odor. This was followed up by an injection of two ounces of a solution of equal parts of tincture of iodine and water. The operation was again attended by temporary relief. Pain, with slight swelling, was then noticed over the right hip-joint. The abscesses on the feet had healed up.

The boy seemed better for a day or two, sitting up and eating

well, but on December 4th, without waiting for the symptoms of pericardial distension, we tapped for the fifth time, drawing off thirty ounces of greenish pus and injecting the iodine. This was repeated on the 7th, when only nine ounces were drawn off, the solution injected consisting this time of two parts of tincture of iodine to one part of water. There was no pain at the time, but a transient sensation of warmth was felt soon afterward. But the patient did not get better; he had profuse sweats at night, and there was slight fluctuation over the right trochanter. He remained in much the same condition until the 10th, supported by a generous diet, port wine, iron, and quinine; the heart-sounds being audible at the base and apex, and the area of pericardial dullness almost normal. There was complete absence of breath-sounds, with dullness on percussion over a space behind corresponding to the upper part of the lower lobe of the left lung.

After this the patient rapidly became worse. Symptoms of peritonitis appeared, with vomiting and diarrhœa, proving fatal on December 17th.

At a post-mortem examination made the day afterward, on removing the sternum, the anterior part of the lower lobe of the left lung was found bound down by adhesions over the front of the pericardium, and was crepitant to the finger. The pericardium itself, distended by about a pint of thick pus, extended backward to the posterior wall of the thorax; it was much thickened, and covered by soft purulent lymph. The posterior part of the lower lobe was completely collapsed and pushed away from the spinal column by the distended pericardium. The heart itself was pale and softened, the microscope showing fatty degeneration of the muscular fibre. In the abdomen the peritoneum was very injected, covered in places by purulent lymph, and contained a small quantity of fluid. The liver was congested and fatty, the kidneys congested.

Remarks.—The operation of paracentesis pericardii has been done many times; but I believe this to be the only case in which iodine injections have been used. The other case, mentioned by

Trousseau, was done by Aran, of Paris, twenty years ago. Many objections naturally obtruded themselves on what may seem to some a rash line of treatment, but I was led to propose the injection of iodine for the following reasons: The case was analogous to that of empyema; there was already one instance on record in which that mode of treatment had been successful; and, lastly, by the kindness and assistance of Dr. Rutherford, I was enabled experimentally to demonstrate, in the King's College Laboratory, the immediate effect upon the pulse of stimulation of the pericardium. We found, in two experiments—one on a cat, the other on a dog—that, on pinching the pericardium, there was a distinct inhibition of the heart's action (a fact before noticed by Dr. Rutherford), being most marked when the visceral layer was excited, but also observed when the parietal layer was stimulated; and that on injecting thirty minims of the pharmacopal tincture of iodine, there was transient retardation of the pulse with slight increase in the arterial blood-pressure (4-10 *millimetres* of the mercurial column). These effects of pericardial stimulation did not, however, appear of sufficient gravity to contraindicate the operation.—*British Medical Journal.*

PROCEEDINGS OF SOCIETIES.

"Etsi non prosunt singula, juncta juvant."

Carbuncle Treated Successfully by Concentric Pressure.

By G. Winfield Zeigler, M. D., Resident Physician at the Episcopal Hospital. [Read before the Rush Medical Society.]

S. E., aged forty, salesman, was admitted into the surgical ward of the Episcopal Hospital, July 12, 1875, suffering from an extensive carbuncle on the nape of the neck, of two weeks' standing, measuring at the time of admission nine and a half inches in length and four and three-fourths inches in width.

His general condition was good, and he stated that he had always had very good health until within about four years, when he was affected with inflammation and enlargement of some of the lymphatics of the neck; one of them going on to suppuration and discharge.

This local trouble soon subsided, and from that time until about four months before the manifestation of the carbuncle, he felt quite well. At this time the posterior part of his scalp and neck became very irritable, and when rubbed would bleed. This condition gradually grew worse until fifteen days before admission, when he discovered three small pimples on his neck, about equally distant from each other, which grew rapidly, and were very painful. On the sixth day following this outbreak, the largest and middle one ruptured, discharging an unhealthy, thick fluid, which irritated the sound skin over which it flowed.

Three days later, the other two followed the same course. On admission, there were numerous points of suppuration over the part, discharging quite freely, and rapidly tending towards the formation of sloughs.

The main opening over the middle of the carbuncle was over three inches in length, while the smaller ones immediately surrounding were about one-eighth as large.

The treatment, which was directed by my esteemed chief, Dr. John Ashhurst, Jr., consisted in the use of adhesive strips, about three-fourths of an inch in width, so applied as to make concentric pressure upon the part, and leaving a space over the centre, corresponding to the size of the main opening, free, over which was applied a linseed-meal poultice, supported by a roller.

The internal treatment consisted in quiniæ sulph., gr. ii., and ferrum redact., gr. i., given four times daily, with two bottles of ale, and a well-regulated house diet.

On the second day, the tumor measured nine inches in length by three and three-fourths inches in width, thus showing the immediate effect of the strapping. The same dressing was renewed every morning until the eighth day (20th), when two large sloughs were removed.

On this occasion the poultice was discontinued, and the part dressed with cerat. resin. comp. On July 22d another large slough was removed, and on the 24th several smaller ones, leaving then a large ulcer, with a healthy granulating surface, and a superficial opening about four inches in length and three inches in width, around which were some smaller openings.

The same treatment was continued, and on the 3d of August the part was again measured, showing the main ulcer to be only two and three-fourths inches in length and one inch in width, while the smaller ones surrounding had nearly granulated over.

On the 16th, the main ulcer had decreased to one and three-fourths of an inch in width; all the others having closed except one, back of the left ear.

On the 17th, the patient, at his own request, became a dispensary patient of the hospital. I did not see him again until the 13th of September following, when there remained nothing but a cicatrix four and a half inches long and half an inch in width at its widest part. The patient told me that it had entirely healed a week previous. He did not have an unfavorable symptom during his stay in the house.

My colleague, Dr. William H. Hawkes, has kindly consented to give me his notes of the following case, which came under his care in the hospital, and in which the same treatment was successfully employed by direction of his chief, Dr. John Ashhurst, Jr.:

Bridget T., aged forty-three, domestic, when admitted to the hospital, September 6, 1875, had a large carbuncle on the back of the neck, with an opening which measured four inches in length and one inch in width, and which was filled with greenish-yellow sloughs. Patient first noticed that the skin at the back of the neck was so irritable that she could not resist scratching it. This irritability increased until about seventeen days before admission to the hospital, when a small pustule gathered and discharged. The discharging surface rapidly increased, in consequence of sloughing of the skin and subcu-

taneous tissue, until the carbuncle attained the size mentioned above. On admission, the patient's general condition was somewhat impaired, and she was accordingly put on tonic treatment. As local treatment, adhesive straps were applied to the parts about the carbuncle in such a way as to produce concentric pressure, and flaxseed poultices were used until the sloughs separated. Then a dressing of cerat. resinæ was substituted, the straps being continued. The resulting ulcer rapidly filled with granulations, and the skin about closed in over them. Patient was discharged the 28th of September, twenty two days after admission, with the carbuncle healed. The cicatrix measured two and a fourth inches in length and about two or three lines in width ; a portion of the cicatrix showing only as a fine line.

In addition to the cases already described, both Dr. Hawkes and myself had each another case of the same kind.

Though the carbuncles, which in the one case was located on the nape of the neck, and in the other upon the back, were not so extensive as in the first two cases, yet the same treatment was successfully adopted in both.

The conclusion which is drawn from this plan of treatment is, that there results little or no loss of integument, thus greatly diminishing the size of the cicatrix which is found when incisions or the free use of the caustics are resorted to.

In all four cases, especially in the first two, there was extensive sloughing of the subcutaneous tissues, but the granulations which sprang up rapidly filled this cavity, very little deficiency was left, and the whole was nearly covered with a roof of well-preserved skin, which under any other form of treatment would surely, I think, have been sacrificed.—*Phil. Med. Times.*

CHEMICAL AND PHARMACEUTICAL.

"Diruit, ædificat, mutat."—Hor.

Early History of the Injection of Medicine into the Blood.—Immediately after the discovery of the circulation of the blood by Harvey, Wren, who was then at Oxford, injected certain fluids into the veins of animals. In a letter to Sir William Petty, he states that he made the first experiment in 1656. He injected wine and ale into the vein of a dog until it became drunk, but soon after, it voided them by urine. He also tried the effects of opium, scammony, and other drugs. The opium, says Oldenburgh ("Phil. Trans.," 1665), stupefied but did not kill the dog. The crocus metallorum injected into the veins of another dog caused vomiting and death.

In 1667, Professor Fracassati, of Pisa, injected diluted aqua-fortis into the crural vein; the animal died presently—all the blood coägulated; spirits of vitriol acted similarly; oil of tartar, when injected, caused much suffering and great distension of the body. When opened, the blood was found fluid.

The French laid claim to the discovery in their "Medical Journals" in 1667, for a reason that one Robert de Gabets discoursed of it ten years before.

The credit of being the first to inject medicines into the human system seems to be due to Dr. Fabricius. The paper is entitled "Some new Experiments of Injecting medicated Liquors into veine, together with (an account of) considerable Cures performed thereby. Communicated by Dr. Fabricius, of Dantzick. (Translated by Mr. Oldenburgh from the original Latin.)"—*Melbourne Med. Rec.*

At the meeting of the American Pharmaceutical Association, recently held in this city, the Committee on Adulterations made an interesting report through the chairman, Mr. Miller. Some suggestive revelations were made. Among other things, it was stated that a New Jersey distiller had frankly admitted to Mr. Miller that all the commercial oils of cedar, hemlock, and

spruce made by him and his acquaintances were prepared by putting the branches of the respective tree in the still, with an amount of turpentine proportioned to the price they expected to realize; and prided himself on the superiority of these distilled oils over those made by mere admixture with turpentine. Mr. Miller had on two occasions purchased four cans of oil of lemon, one of which contained about seventy-five per cent. of oil, and the others scarcely thirty-three per cent. These adulterations were becoming common in Europe as well as in this country. A gentleman who claimed to have formerly held responsible positions in two of the largest German houses, had shown to Mr. Miller a full line of receipes for mixing and cheapening all the more important oils, which he was anxious to compound in this country. Mr. Miller had also been informed by the the official representative of an extensive French firm in Grasse, that all the cheap grades of lavender, rosemary, and red thyme, sent to this country by his firm and other manufacturers, contained at least seventy-five per cent. of turpentine. Some of the adulterations which are of public interest are musk, a caddy of which, weighing nineteen and a half ounces, was proved in an English court to contain only six and a half ounces; French oil of almond, stated on undoubted authority to be obtained exclusively from peach kernels; honey made by melting cane or other sugar in a decoction of slippery elm bark or a solution of gum and starch; linseed oil, adulterated with hemp, fish, rosin, and mineral oils; beeswax, consisting almost entirely of black earthy matter neatly coated with handsome yellow wax by repeatedly dipping it into the melted wax, and also adulterated with paraffine; castor oil, composed of lard and croton oils, etc.—*Exchange.*

Hypodermic Injection of Ergotin in Purpura Hæmorrhagica.—In the "Philadelphia Medical Times" Dr. Andrew K. Minich gives an account of a very serious case of purpura hæmorrhagica treated successfully by the subcutaneous injection of ergotin. The condition of the child was very grave,

and blood was issuing everywhere, when a grain of ergotin was injected under the skin of the arm. Sponging with infusion of oak-bark was also ordered. Four hours afterwards the profuse vomiting of blood had entirely ceased; but blood still issued from the nose. Another grain of ergotin was then injected. Next morning the bleeding had ceased. He gave another injection. The small spots upon the skin then disappeared. Some fluid extract of ergot, with sulphuric acid and opium, was then administered by the mouth. The patient made an uninterrupted recovery. Dr. Minich then proceeds to consider the pathology of purpura hæmorrhagica as read by the light of this case. He dismisses the hypotheses that the disease rests upon some change in the blood, or that it is due to a condition of fatty degeneration of the capillaries, and gives it as his opinion that the real pathology is vaso-motor paralysis; and that the ergot acts upon the capillaries by causing them to contract, and does good by inducing vaso-motor spasm.—*New Remedies.*

Ergot.—According to Wenzell, ergot of rye contains two alkaloids combined with ergotic acid, soluble in water, which he designates ecboline and ergotine; ecboline possesses in a high degree the special medicinal properties of ergot; ergotine has, however, but little action; ergot also contains a sugar termed mycose, lactic acid, albumen, and red coloring matter. —*New Remedies.*

Tobias' Venetian Liniment:—Spirits hartshorn, five parts; camphor, two parts; tinct. capsicum, five parts; alcohol, thirty parts; water, ten parts. Mix.—*Exchange.*

Actual Cautery.—Dr. Bounafort, of Belgium, has devised the following for application to the neck of the womb: Nitrate of potash, one part; wood-charcoal, twenty-eight parts; powd. gum arabic, four parts; water q. s. Mix thoroughly, and mould into sticks the size of the little finger, and from half to

three-quarters of an inch long. When dry, set fire to one end of the little stick, and carry it through a glass or wooden speculum to the exact spot. With proper care, the patient is unaware of what has been done. Cold water is then thrown in, a tampon dipped in glycerin is left in situ for a month, when, if necessary, the cauterization can be repeated.—*New Remedies.*

Elegant Ferruginous Preparation.—The following offers simply the most elegant and efficient ferriginous preparation we know of: Take of tincture of chloride of iron three fluid drachms, dilute phosphoric acid half a fluid ounce, syrup of lemons three fluid ounces. M. A whitish preparation, pleasant to the taste; to be exhibited in a dose of a dessertspoonful to a tablespoonful.—*Med. Times.*

To Cure Hoarseness.—When the voice is lost, as is sometimes the case, from the effects of cold, a simple, pleasant remedy is furnished by beating up the white of an egg, adding to it the juice of one lemon, and sweetening it with white sugar to the taste. Take a teaspoonful from time to time. It has been known effectually to cure the ailment.—*New Rem.*

Bicarbonate of Soda to Disguise Taste of Quinia.—The bitter taste of sulphate of quinia is said to be readily concealed by mixing it with equal parts of sodium bicarbonate.—*New Remedies.*

Administration of Castor-oil.—M. Potain recommends, as the best method of concealing the unpleasant flavor of castor-oil, to squeeze half an orange into a glass, and pour the oil upon it; then, avoiding all disturbance of the liquids, to squeeze the juice from the other half of the orange carefully over it. The oil, thus enclosed between two layers of orange-juice, can be swallowed without the least perception of its flavor.—*New Remedies.*

Peanut Oil.—The rapid extension of the cultivation of peanuts in North Carolina, Virginia, Tennessee, Georgia, and South Carolina is due to the use now made of them for the oil they contain. According to official agricultural reports, previous to the year of 1860, the whole crop aggregated only 150,000 bushels per annum, grown principally in North Carolina; last season's product reached 2,000,000 bushels, valued at $3,000,000. In a commercial point of view, the oil is much more important than the nuts themselves. This oil is in large demand, and answers for many purposes as a substitute for olive and almond oils; it keeps a long time without becoming rancid. The amount of oil contained in the nut varies according to latitude and other favorable conditions and circumstances, and is proportionately large. All the oil comes from the "meat," the husk being of no value. The oil is extracted by pressure, and the pressed cake is used both as food for cattle and as manure. Algiers also supplies the port of Marseilles with large quantities of these nuts, from which the oil is expressed, and probably destined to augment the supply of the olive oil for which that city is so great a market. The production of peanut oil in the United States dates back to the war, when it was used to a large extent for table purposes in the South, olive oil being almost unobtainable; it was also used quite generally at that time as a substitute for lard. The cake residuüm was made serviceable; after being roasted and ground it was used in place of coffee and chocolate, making a tolerable if not a desirable beverage.—*Boston Jour. of Chem.*

Iodine Caustic.—Iodine caustic is prepared by dissolving four grammes of iodine in eight grammes of glycerin. It is used in lupus by applying it once every other day, and covering the parts with gutta-percha. This treatment is continued for several weeks.—*Canada Lancet.*

Purification of Smoke.—An apparatus for washing smoke, and so depriving it of its character as a nuisance, is in opera-

tion at a factory at Mènilmontant, Paris. A fine shower of water, traveling in the direction of the smoke, and at five times its velocity, is projected into the chimney, where it mixes with the smoke, taking up the soluble gases and precipitating the impurities carried up with the smoke by the draught. The foul water is discharged into a cistern, where it is collected, and a fine black paint is got from it.—*Boston Jour of Chem.*

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

"Judex damnatur cum nocens absolvitur."

LIFE OF SIR RODERICK IMPEY MURCHISON, Based on his Letters and Journals, with Notices of his Scientific Contemporaries and a Sketch of the Rise and Growth of Palæozoic Geology in Great Britain. By Archibald Geikie, F. R. S. Illustrated with Portraits and Wood-cuts. London: 1875.

Every student should be familiar with the life of the remarkable man whose biography is given in the two volumes just placed before the scientific world.

Sir Roderick Impey Murchison has left his name impressed upon the annals of science and art, and it is well that his life should have been recorded by so able a biographer. Mr. Geikie is specially qualified for his work, having been furnished by Murchison with documents which had been accumulating for many years, and also because he is a complete master of those branches of science in which Murchison was distinguished. He is able to bring to his task the aid of literary culture and ability, and displays throughout the book much judgment and impartiality. He not only brings before the reader the austere man of science, but lifts the mantle of reserve to give a glimpse of the real tenderness and gentleness beyond.

The subject of this memoir was descended from the Murchisons of Lochalsh, a Highland Sept, within the domains of the

Mackenzies. In 1791 Kenneth Murchison married a daughter of the House of Mackenzie, and the first fruits of this marriage, Sir Roderick Impey Murchison, appeared in 1792 at Taveaudale, descending on his father's side from a race of yeoman farmers, the mother being of gentle blood.

Did space and time permit, it would be pleasant to refer to many instances when, as in the present case, the grafting of the vigorous, healthy branch upon the old aristocratic tree has resulted in fruit of the finest order.

During his school life, young Murchison's strongest characteristic was his love of amusements and outdoor sports. Of him it can not be chronicled that he carried off distinguished honors in his studies, nor commended himself to the example of his classmates in his conduct. He seems to have made himself remarkable for his daring escapades, and when he was sent to the military school of Great Marlow, he soon became the ring-leader of frolic and the fun-maker of the corps of cadets. But here for the first time he gave evidence of having an interest in more serious matters. One finds him now beginning to take notes, a habit to which a considerable portion of his success in life is undoubtedly due—and it is interesting to mark in these memoranda the germ of those tastes which were so freely developed by circumstances in after life.

He chose the profession of a soldier, and at the age of fifteen was gazetted as ensign of the Thirty-sixth Regiment, and sent to Edinburgh in command of a recruiting party. Here he studied modern languages, mathematics, and attended a debating club, while he took care not to become too learned, by devoting his attention also to riding, fencing, and by becoming one of the first young military powdered fops of the day.

On returning to his regiment, he was ordered to the Spanish Peninsula, and acted as aide-de camp to his uncle, General McKenzie, for a number of years. His military life offers little of interest. During the whole of this time he lived an idle, fashionable life, the only exception being that he attended the lectures of Sir Humphrey Davy at the Royal Institute in

1812. He retired from the army, when he married in 1815. His wife was the daughter of General Hugonin, and was attractive, piquant, clever, highly educated, and three years older than himself. She must have been moreover a woman of fine tact and rare strength of character, as it was principally through her influence that Murchison gradually gave up his most unworthy life of an idler and began in earnest the studies which were really very much to his taste. The transition was gradual. Through art he found his first introduction to intellectual life. He studied in the continental galleries and museums for several years, and kept up the habit early formed of taking notes copiously. On his return he had a mental relapse, and for two years the noble science of fox-hunting became the dominant passion of his life. How this phase of his career was terminated can best be gathered from his own words, written some forty years afer the event:

"As time rolled on, I got blasè and tired of all fox-hunting life. In the summer following the hunting season of 1822–23, when revisiting my old friend Morritt of Rokeby, I fell in with Sir Humphrey Davy, and experienced much gratification in his lively illustrations of great physical truths. As we shot partridges together in the morning, I perceived that a man might pursue philosophy without abandoning field sports; and Davy, seeing that I had already made observations on the Alps and Appennines, independently of my antiquarian rambles, encouraged me to come to London and set to at science, by attending lectures on chemistry, etc. As my wife naturally backed up this advice, and Sir Humphrey Davy said he would soon get me into the Royal Society, I was fairly and easily booked."

The ordinary American mind stands fairly aghast at the language used by the scientific Englishman, and can not avoid astonishment that this elegant gentleman should first "fall in" and then "set to," and end by being "easily booked," congratulating himself meanwhile upon a wife possessed of the unusual accomplishment of "backing up."

Having established himself in London and sold all of his

saddle horses, he entered upon his new life by attending the lectures at the Royal Institution, among which was a course of geology, a subject which, most probably, attracted him because it interfered least with his sporting propensities.

He became a constant attendant upon the meetings of the Geological Society, a societie founded in 1807, and then composed of a most brilliant body of orators and philosophers. He entered with much real enthusiasm into his new pursuit, and had indeed found his vocation. He threw into his studies all of the ardor which had characterized his field sports, and the result is well known. Such was the peculiar condition of geological science at that time, that a great work could be done by a man with a quick eye, good judgment, an accurate knowledge of what had been done before, and fine physical powers. Murchison possessed all of these advantages, and, in addition, an orderly, methodical habit of investigation. He accomplished his work, aided at every step by his wife, who was his constant companion.

In this short review it would be impossible to enter into the details of the ground over which Murchison passed for the next forty years. Geikie first describes the condition of the science of geology at the time when Murchison became interested in it, and he then elaborates most carefully its history for many years. To Murchison's patient and methodical investigations is due a new era in the science. He travelled from country to country, and the fruit of his work he untiringly and most ably gave to the Royal Society. For five years he was Secretary of the Geological Society, and then received the compliment of being elected its President. He was, also, for fifteen years the President of the Geographical Society, during which time the membership increased from 600 to 2,400.

The life of this eminent geologist is chiefly interesting as an evidence of what energy, perseverance, and method can accomplish. During his whole career he shows no evidence of genius. His scientific successes were the results of indomitable industry and business-like method; and, stranger still, these qualities

seem to have been the outgrowth of his maturer years, and to have formed no part of his character in youth. He also possessed great tact and judgment, and an insight into the ways of men. He retained through life his military bearing, and, added to this, was a hauteur, which prejudiced many against him and led to the belief that he was cold and selfish. His biographer takes much pleasure in demonstrating that this was but a fault of manner. He says: "Long will be remembered in the salons of London the tall, military figure and courtly though frigid manners of the veteran, and long will the gratitude of some of his humbler friends follow him for numerous acts of kindness, done in the Scriptural manner, so that the right hand did not know the work of its fellow."

Mr. Geikie has given most interesting sketches of some of Murchison's great contemporaries, and his book contains woodcuts of some of these. It is much to be regretted that the execution of the work is so bad as really to make the likenesses appear as caricatures. The noble Sedgwick, who possessed the divine gift of genius, but who lacked method and physical strength, seems to have had the ability to make a far greater geologist than Murchison. Interesting glympses of Sir Charles Lyle and of Phillips are also afforded, for these earnest students were for years as closely associated with Murchison as they were with the history of geology.

Uronology and its Practical Applications: a Guide to the Examination of Urine and its Diagnostic Value, with Extracts from the Works of the most Modern Investigators. By George M. Kober, M. D., Member of the Clinico-Pathological Society and Medical Society of the District of Columbia. Louisville, Ky. 1875.

The practitioners of this country have long desired such a work on the subject of the urine (physiologically as well as pathologically considered), which, while not being exhaustive in scientific details or objectionably abstruse or obscure, is yet complete as a guide and instructor. All such persons will find in this volume just what they desire. It is the most complete book

of its kind now before the English or American public. It is beautifully embellished with eighteen illustrations handsomely engraved, furnishing faithful representations of those urinary deposits with which the practitioner must be familiar. The index is a model in every respect, and directs the reader at a glance to the paragraph desired. The work is not bound in boards or leather, as this would have unnecessarily increased its cost. It is enclosed in substantial paper covers, and if the purchaser desires, the volume may be bound to suit his own fancy. It is for sale by Maxwell & Co., 164 Main street, Louisville, Ky., and the cost, including the postage, is but eighty-five cents.

VISION; ITS OPTICAL DEFECTS AND THE ADAPTATION OF SPECTACLES. With Seventy-four illustrations on Wood, etc. By C. S. FENNER, M. D., Louisville, Ky. Philadelphia: Lindsay & Blackiston. 1875.

This work, an octavo of three hundred pages, is dedicated to Drs. E. Williams, of Cincinnati, and George Strawbridge, of Philadelphia, as an expression of appreciation of their high ability and in acknowledgement of many favors.

The author's desire in this publication is to give a résumé of present knowledge on physiological optics and the defects of the eye as an optical instrument. He has accordingly given as a prefix a treatise on physical optics. The work was commenced in the summer of 1874; but as the author suffered from a severe retinal hæmorrhage whilst writing the first part, he has not been able to issue as large a volume as he orignally intended. In going on with his labor, he has received the admiration of his friends; indeed, the volume, apart from its high scientific merits, is a monument of pluck, patience, and perseverance under pains and discouragements that would have paralyzed the energies of most men. He, in this connection, acknowledges gratefully his obligations to Drs. Ruschaupt and Thomas E. Jenkins, of Louisville, and also to W. J. Macrae, Esq. The proof-reading has been carefully done. There are not more than three typographical errors, and these were cor-

rected before the volume was distributed. The paper, printing, and binding are all excellent. The author states what kind of volume he desired to present, and experts in ophthalmology in this country have almost all written to him in warm admiration of his having accomplished, most commendably, his purpose. The work is well adapted for a text-book, and for the use of every general practitioner. For the information of the reader, it is best to say that the volume is divided into three parts: Part I., Physical Optics and Light; Part II., Physiological Optics, Visual Sensations, Visual Perceptions; Part III., Errors of Refraction and Defects of Accommodation, Hypermetropia, Myopia, Near-sightedness, Astigmatism, Difference in the Refraction of the two Eyes. There is an appendix, containing full instructions for the adaptation of spectacles. The author also furnishes excellent selections from the test-types of Jaeger and Snellen. The illustrations on wood, seventy-four in number, are unusually good. The reader will value an excellent representation of the antero-posterior section of the eye after Helmholtz. The index is full and admirable. As a whole, this volume, endorsed by experts, is warmly commended, and it is hoped that the author will receive adequate reward in every way for his faithful and efficient labors.

MISCELLANEOUS.

"Non omnes eadem mirantur ament que."

At the recent meeting of the British Medical Association, Dr. James Hardie, of Manchester, gave an account of a new rhinoplastic operation, which consisted in the substitution of the upper phalanx of the forefinger for the nasal bones and cartilages, so as to give the required nasal prominence. In the case of a young girl who had lost both nasal bones and cartilages, Dr. Hardie, after failure of other methods, bandaged the

arm in such a position as to enable the forefinger to be laid and fastened upon the nasal cavity, in which position the finger was kept for about three months. Gradually the finger became attached to the cavity, and ultimately the upper phalanx was separated from the rest by the forceps. Dr. Hardie's first intention was to employ the finger merely as a substitute for the nasal bones and cartilages, and to lay over it flaps of skin from the face or arm in the usual manner, and to this plan he ultimately returned, although at one time he was so satisfied with its appearance as to think of using the phalanx itself as a substitute for the nose.

Enormous Hailstones.—M. Colladon, writing to the Académie des Sciences on the recent dreadful storm that did so much harm at Geneva, Lausanne, and Lucerne, states that the hailstones were of extraordinary dimensions. Most of them measured from ten to twenty millimetres in diameter, many of them being much larger, and some of them reaching sixty millimetres, while one attained a diameter of one decimetre (nearly four inches). At some points it seemed as if artillery were discharging hailstones, some of them weighing not less than three hundred grammes (nine ounces troy). Many were hemispherical in shape, having exactly the appearance of lemons that had been cut in half. The discharges of lightning succeeded each other with unexampled rapidity, and at Geneva, from 11 P. M. to midnight, there were counted at least two or three discharges per second, so that in the course of the hour from 8,000 to 10,000 must have taken place.

An instance of remarkable persistence of cardiac action after cessation of respiration is reported to the " Medical Times and Gazette " of September 25, 1875, by R. Stewart, M. D., who was called to a gentleman of some seventy-two years, about 5 o'clock P. M. of July 4, 1872. After prescribing for the fatigue, heat, and pain in the head, of which his patient complained, the physician left, but at 8 o'clock was again sum-

moned to him, and found that he was apparently dead. The jaw had fallen, the eyes were fixed, the body was cool and the head hot; but on applying the ear to the chest the heart was heard distinctly beating twenty-seven times a minute. Artificial respiration was practiced, and air and ammonia blown into the lungs. Under this treatment the heart-beats became more frequent and forcible, but no respiratory effort could be produced. At 10 o'clock the heart was still beating, and the attempts to reëstablish respiration so stimulated the heart that a radial pulse became perceptible. The body gradually became cold and rigid and the cardiac pulsation more feeble. Between 5 and 6 A. M. of July 5th, the throbbing of the heart was very feeble and slow, and could not be accelerated, and a little after 8 o'clock there were signs of decomposition by appearance, odor, and lessening rigidity. The patient was evidently dead then; but, as Dr. Stewart well asks, what was he before?—*Ex.*

Underneath the Great Eastern.—The Great Eastern has been lately in dock at Milford Haven, and an enormous amount of "live stock" has been removed from her bottom, which had not been scraped since 1867. A correspondent of "Land and Water," who visited the vessel with a view of obtaining specimens for the Brighton aquarium, says: "There were a few barnacles (*Balanus tintinnabulum*, apparently) near the level of the water-line, especially about the stern-post and between it and the rudder, and the latter itself, as well as the propelling screw, was covered with the common acorn-barnacle or 'chitters;' but all the rest of the hull usually submerged was clad with an enormous multitude of mussels, clustered together in one dense and continuous deposit, extending over a surface of 52,000 square feet of iron plates, and in some parts six inches thick. Mr. Beckwith had made a calculation, which I was able to verify with him, of the total weight of the mussels thus accumulated. It was found by careful experiment that the average weight of those on each square foot was from twelve to thirteen pounds; therefore the vessel was encumbered with

not less than three hundred tons of living marine animals adhering to her—mussels enough, in fact, to load with full cargoes two ordinary collier brigs! Although the mere weight of this mass would not, perhaps, much affect the buoyancy of a vessel of 25,000 tons burden, it will be readily understood that the friction of such a rough, jagged incrustation passing through the water would materially diminish her speed. As these troublesome adherents were scraped off with shovels by workmen employed under contract to remove them, they were carried away by cart-loads and boat-loads, and buried along the shores of the haven. In some localities they would have been heartily welcomed by the fishermen as valuable bait. So completely had the mussels taken possession of every inch of plate-surface, to the exclusion of almost every other living thing, that there was nothing fit for exhibition in an acquarium but some 'plumose anemones' (*Actinalaba dianthus*) of the three varieties—orange, white, and olive—five groups of which had attached themselves in some places to the outer layer of the crowded bivalves."

Deep-Sea Soundings.—A few years ago it was considered a feat in deep-sea sounding to reach a mile or a mile and a half, and even then, after allowance had been made for the action of currents upon the line, the actual depth attained was a good deal matter of calculation or guess. Breakages also were continually occurring in the hauling up, from the necessary slenderness of the cord in comparison with the weight of the lead. The modern method by which the lead detaches itself at the bottom, meets that as well as several other difficulties nearly as important, and the wonder is that it was not thought of sooner. Now there is scarcely any limit to the depth of soundings, except the depth of the sea, which the recent explorations of the Challenger go far to show to be in accordance with the theory that its greatest depth is equivalent to the height of the highest elevations above its level. The deepest sea soundings yet effected by the Challenger were obtained this year in the abysses off New Guinea, depths which have occasioned a sharp line of

demarcation between the fauna of Asia and Australasia. The "lead" weighed 4 cwt., and struck bottom at the tremendous depth of 4,575 fathoms, or 27,450 feet. A second sounding made soon after gave 4,475 fathoms. Three out of four thermometers that had been sent down were crushed by the enormous pressure of the superincumbent water, amounting to between five and six tons to the square inch. The surviving thermometer showed the temperature at that depth to be 34.5° F. These are the deepest trustworthy soundings on record, with the exception of two taken by the Tuscarora off the east coast of Japan, which were respectively 4,643 and 4,655 fathoms.—*Exchange.*

What's in a Name?—The "London Medical Times" tells a humorous story of the late Sir Charles Locock, as an evidence of his powers of repartee. His great repute had induced certain vendors of quack medicine to advertise cough lozenges under the title of "Locock's Pulmonic Wafers," or "Locock's Cough Lozenges." This, of course, caused him some annoyance. One morning he met the Duke of Wellington in Hyde Park, who said: "Locock, I have a bad headache from taking your damned lozenges." "Well," said Sir Charles, "I might as well say that I am lamed by wearing your damned boots, for I wear Wellington boots."

An English Country Churchyard—Many of the country churchyards in England are as lovely as the one which Gray has made the scene of his Elegy, but there are others in which no poet or sentimentalist would like to meditate among the tombs. The state of the one in the parish of Talland, in Cornwall, according to an account in a sanitary journal, is almost incredibly revolting. "Nearly 8,000 people lie buried in about half an acre of ground, the soil of which is so shallow that the graves can not be dug deeper than about four and a half feet. Repeated burials have, however, so raised the level in the vicinity of the church that the sacred edifice appears as if situated in a

pit, and from the higher part of the graveyard there is continually oozing upon the floor of the belfry a horrid slime; to save the ringers from the poisonous effect of which, disinfectants have to be used. The church has actually become, in consequence, unfit for public service. The air on Ash Wednesday was so fetid that the congregation had to withdraw; while flowers employed for decorative purposes became almost black by a day's exposure to the mephitic atmosphere. It is characteristic that after all these facts had been laid before the vestry, that body refused, by a majority, to take any steps toward the establishment of a cemetery. That, however, will probably be undertaken by the central authority."—*Exchange.*

The other Side.—Your article the other day on the metric system suggests a few remarks, which I hope you will be kind enough to publish.

It is well known that this system, attractive as it is at first sight, has never been entirely popular even in the country of its birth, and that the old denominations of weights, measures, and currency are still in common use in France, especially among the masses and in the rural districts.

The reason is that the natural method of subdivision is not by decimating, but by halving and quartering. If you wish to divide a string, an apple, or a bar of soap, it is very easy to cut it into halves or quarters or eighths or sixteenths by the eye with a good degree of accuracy; to divide it into thirds, fifths, or tenths is extremely difficult, and requires nice measuring and weighing. Now tradesmen, grocers, apothecaries, and the like always divide first by the eye and then verify with the scales. Our present system, confused as it is, is in conformity with this natural method of subdivision, hence its popularity and convenience.

This defect of the decimal system has always been felt, even in arithmetical notation. Hence a duodecimal system of notation has often been advocated by mathematicians in place of the decimal one now in use. The number 12 has four factors, 2,

3, 4, and 6, while 10 has only two, 2 and 5. It is evident that calculatlon would be facilitated by such a notation.

Our present system of weights and measures is a duodecimal system based, as all the world knows, on the Roman *as* and its twelve *unciæ*. It is universally known both in Europe and America. It has stood the test of two thousand years. It is an old friend. Let us spare it.

We know the national fondness for innovations; let us remember that there is another "great nation" which has a similar weakness, and that French experimentations are not always attended with the most imposing results.

We have no time to criticise the nomenclature of the new system or its utter inconsonance with natural and preëxisting standards.

Perhaps enough has been said to show that there are objections to it, not only practical but scientific and mathematical.—*E. T. W., in Boston Med. and Sur. Jour.*

Treatment of Ununited Fractures.—Discussing the various operations for the cure of ununited fractures, at a meeting of the British Medical Association, Professor Spence said: There is a method of treating ununited fractures, especially at an early period, which I do not think has had sufficient notice taken of it, nor been sufficiently or fairly tried; I mean the plan proposed and practiced by the late Professor Miller. The method consists in entering subcutaneously a long, narrow but strong knife; passing it on to and between the ends of the ununited bone, dividing freely the fibrous union, scraping the ends of the bone, and slightly separating the periosteum; then the limb is carefully and firmly bandaged, and placed in appropriate splints. I know that this plan has never had much favor; perhaps it seemed too simple to effect the purpose, and it was derided and declared to be inefficacious by some who professed to have tried it. But I also know that I have frequently used it, and have generally found it successful when the knife has been effectively used, and the after-

treatment carried out carefully. I have, indeed, so strong an opinion of the efficacy of this method in comparatively recent cases, that I do not think it warrantable to proceed to severer measures until this simple one has been fairly tried, and I purposely mention it here to press it on the attention of the Profession.—*Brit. Med. Jour.*

A Characteristic Letter by Jenner.—When Clive wrote to Jenner assuring him that if he came to London he would earn £10,000 a year, Jenner replied: "Shall I, who even in the morning of my days sought the lowly and sequestered paths of life in the valley, and not the mountain, shall I, now my evening is fast approaching, hold myself up as an object for fortune and for fame? Admitting it as a certainty that I obtain both, what stock should I add to my little fund of happiness? And as for fame, what is it? A gilded butt, forever pierced with the arrows of malignancy."

The University of Michigan.—We have read with much regret the lengthy appeal for sympathy put forth by some of the Medical Faculty of this University, in the vain hope of justifying themselves in the endeavor to serve two masters. They have but one course before them that will be endorsed and applauded by the entire Profession.—*New York Medical Journal.*

MEDICAL NEWS.

'Nulla dies sine linea."

Novelties in Veterinary Practice.—The "Lancet" says that a cow on the farm of a Mr. Wilson, at Burrowdale, in Cumberland, suffered a fracture of a leg for which amputation became necessary. The stump healed well, and a wooden substitute for the part removed was adjusted, and the animal was enabled to walk about and feed in pasture. The "Lyon Médical" adds

to this statement that Professor Hertwig has employed artificial eyes of hard rubber to replace the organ when lost by horses. Not only do they prevent the entrance of dust and insects into the cavity of the orbit, but they add to the appearance of the animal. The operation for their introduction is very simple, and they require to be cleaned only about once a week.—*New York Record.*———*Treatment of Alopœcia by Electricity.*—Dr. Waldenstrom has attempted to remedy the loss of hair from the scalp by this means. He applied in one case, one of the poles to the superior ganglion of the great sympathetic, and the other upon that portion of the scalp from which the hair had fallen. At the end of six weeks the hair was replaced. Another patient treated in the same manner showed a not less favorable result at the end of two months of electricity. In spite of his double success, Dr. W. does not feel authorized to extol the remedy without further trial. He only states his belief that the treatment is a promising one, and hopes it may have a thorough examination.—*Medical Times.*———*Russian Cure for Drunkenness.*—H. Haurowiz says that for some time past *herba serpylli* (wild thyme) has been used with great success to effect permanent cure of drunkenness; in case of a relapse (only after years), a short treatment will effect a cure again. The treatment consists in making an infusion of wild thyme (one and a half ounce to one and a half pints) and give the patient a teacupful every half hour. The next day it is given every two hours, and then four to six times a day until the cure is complete, which generally takes from two to three weeks. The effects are in the following order; vomiting, diarrhœa, increased urine, strong transpiration; then, generally, increased appetite and craving for acidulous beverages. Diet, easily digested food, and lemonade or other acidulous liquids.—*American Journal of Pharmacy.*———*Dr. Alexander Fleming,* of Birmingham, England, died August 21st. He was known abroad chiefly in connection with his researches on the action of aconite.—*N. Y. Medical Journal.*———*The* class at the Louisville (Ky.) Medical College is larger than ever; there are

325 matriculates, when this Journal goes to press; 100 more than are to be found in any college of the State; a class exceeding in number the aggregate of all the students in the Kentucky medical colleges put together.———*The* Decennial Index (for twenty volumes) of this Journal will soon be published; price 50 cents. Those desiring it will please send on their orders.

EDITORIAL.

"Nullius addictus jurare in verba magistri."—Hor.

The Foster Mother of Homœopathy.—That homœopaths of the present day repudiate the original tenets of Hahnemann, is a fact not only fully understood but generally conceded. That the members of the regular Profession justly ridicule these absurdities and contemn these doctrines is as true now as it has ever been. The whole system, illogical as Hindoo philosophy, immaterial as moonshine, as fragile as the spider's web, and as unscientific as the cabalistic records of ancient alchemy, is fast lapsing either into ruin, where it is honestly practiced, or into contempt, where, as is the rule, its teachings are evaded and its therapeutics concealed. The regular Profession have, therefore, for years carefully watched the only medical institution in this country in which this demonstrable heresy and convicted absurdity had any prospect of receiving either a recognition or a home. The Medical Department of the University of Michigan, located at Ann Arbor, has received the most watchful scrutiny, and events have shown that this jealous watchfulness was both natural and necessary. What was feared by all and anticipated by many has, in that unfortunate Institution, actually occurred; homœopaths have found a foothold therein, and the University has practically become the foster mother of homœopathy.

The Faculty of this Institution, after nobly resisting the encroachments of this insidious enemy, have at last ingloriously succumbed. They are to-day in the grasp of the monster, which is already speedily destroying their past record, their present standing, and their future hopes. They are appealing to the Profession for defense and support, and the results are as marvellous as deplorable. It is, indeed, marvellous that such men as Drs. S. D. Gross and Marion Sims and the elder Flint should be found sustaining the old Faculty of the University in their present attitude of personal weakness and professional infidelity. These gentlemen have written letters in support of this Faculty; but they will soon find it necessary to write other letters; letters in support of themselves; and they will be as unsuccessful in these last, as they have been in the first. The Profession can not and will not support them or

the cause they so deplorably endeavor to sustain. They are justly high in position, nobly and honorably won; but the Medical Profession in all cases affecting its character and safety, sits as a jury, ready and able to decide each question for itself. It listens to the pleaders, but never allows them to forestall or declare the verdict. What this will be, it requires no prophet to record. But the reader desires the facts upon which to base his own conclusions.

As the result of recent legislation, all of the homœopaths who, in future, graduate at the Medical Department of the University of Michigan (!!!) must have received not only instruction from the old Faculty, but these homœopathic doctors, to be made such, must have received the sanction of the regular Faculty. The votes creating these homœopathic physicians are to be cast by the Faculty of a regular school of medicine, though this Faculty abhor the doctrines which they thus give their pupils the license to practice. More than this; this Faculty of a regular school of medicine create practitioners whose practice they honestly believe to be a fraud, a danger, and a sham!!

The Faculty assert that their position has been forced upon them; the records show "that the attention of the Faculty of the old school had at several times been called to the progress of the homœopathic bill through the Legislature, and that, subsequent to its final passage, the plan of organization of the Board of Regents had been submitted to them, and received their endorsement *prior* to its adoption by the Board." Such being the case, the Profession must read with the gravest censure what the Faculty have expressed about "the depth and agitation of the first feelings of the Faculty naturally induced," as they say, "by the unexpected action of the Board of Regents." In other words, the Faculty agreed to that legislation of the Board of Regents which, as they urge now, so agitates and distresses them. This is very bad. It needs no comment.

The Faculty urge that they do not sign the diplomas of the graduates in homœopathy; true, but they authorize and sanction the signatures of others! This is a melancholy quibble. It is very unworthy of men claiming to be upright.

Again, the Faculty claim that they can now (before homœopathic students) expose the errors of homœopathy; but the schedule of lectures is so arranged, that the lectures on Materia Medica and on Practice are delivered in the old college and in the homœopathic department at the same hour; exposure and conversion, therefore, are impracticable; but were it otherwise, what would be the picture? Pupils repudiating the doctrines of their own teachers, and teachers appealing for a hearing to their own pupils. "What a fall was there, my countrymen!"

Were a witness to plead the right to sustain and sanction a fraud to save the life of a friend, the plea would meet with abhorrence; yet this is the plea of a Faculty claiming that it is best to virtually sanction homœopathy in the University to save the medical school from the ruin entailed by their withdrawal. Such logic is worse than such action. The true course is too clear

to require description. The Legislature has hoisted the flag of homœopathy over the University, and will defend and keep it there. Those who repudiate this flag and all it represents, dishonor themselves, their principles and friends by doing service where it flies. Honorable surrender, before dishonorable service.

Some of the so-called metropolitan medical journals have advocated as many policies in connection with this revolution at Ann Arbor, as did ever the wily Talleyrand in regard to the revolution in France. They have, indeed, been most excellent weather-cocks, and have shifted so often that the Public have become first amused, then surprised, and at last disgusted. Many journals, as usual, have been afraid to commit themselves to any opinion. Like the statue of Memnon, however noisy and tuneful in the sunshine, they are dumb and silent in the storm. Like the recorder in court, they wait to give the verdict of the jury. Will these journals play only the role of the recorder?

Physicians' Medical Bills.—In the Correspondence Department of this Journal there appears an interesting letter from the physicians of Henderson, Ky. Their object should not be one of local importance only; it concerns every physician in this country, and the Profession should, by conjoint action through societies, secure the passage of a law giving to physicians' bills a just precedence in the settlement of all Estates.

Change of Terms.—Subscribers will please read the notice as to the change of terms, on the cover page of this Journal. It will be observed that by prompt payment, the terms will be as they have always been; $5.00 yearly; but that if credit be required the price must be increased. Secular papers and periodicals, published by the leading Houses of this country, all require payment in advance; subscribers to this work are not required to pay in advance, but have the option of paying promptly or otherwise, according to the terms advertised.

In the October number of this Journal, on page 414, there appears an interesting letter from Dr. T. A. Winn, of Missouri. By an oversight this letter was published over the initials T. A. U.

RICHMOND AND LOUISVILLE

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ORIGINAL COMMUNICATIONS.

"Qui docet discit."

ART. I.—MENSTRUATION AND THE LAW OF MONTHLY PERIODICITY. By J. GOODMAN, M. D., Professor of Obstetrics in the Louisville Medical College.

The occurrence of a sanguineous flow from the genital organs of women at the period of puberty, and its recurrence thereafter at intervals of a lunar month for thirty years, unless interrupted by pregnancy, lactation or disease, constitutes a phenomenon sufficiently strange to excite wonder and to stimulate inquiring minds to its investigation. Accordingly, from the days of Hippocrates to the present time, attempt after attempt has been made to solve the problems of its causation and periodicity. To the modern physician such questions are not simply matters of laudable scientific curiosity, but have a direct bearing upon the pathology, diagnosis, and treatment of female diseases. Thus far, physiologists have not been able to answer them in a definite manner, and, baffled in their search for facts, have contented themselves with the fabrication of theories. These have varied in character from the grossest superstitions to the most subtle refinements of scientific ingenuity; but in this connection it is unnecessary to enumerate even the most plausible, for there is only one that is now regarded with anything like general favor. This is the *ovular theory*, which assumes that menstruation is due to the periodic discharge of

ovules from the Graäfian follicles. Intimately associated in its origin with the discovery of an important physiological law,* and ably advocated by high authorities, it has come to be received by the Profession at large as demonstrated and established; and for the last twenty years has exercised a decided influence in modifying our views on practice. But to my mind it is unsatisfactory, and I will proceed in as brief a manner as possible to assign the reasons.

It is necessary, however, in the outset, to obtain a distinct enunciation of the theory in question, that we may understand the extent and nature of its claims; and instead of expressing this in my own words, it is certainly fairer to accept it as set forth by some of its most intelligent advocates. In looking over the various authorities for explicit statements of this kind, I find the language of many so ambiguous that it is impossible to determine exactly what opinions they hold. But there are some who entertain definite ideas and are capable of expressing them accurately. By these, the ovular theory is presented to us under two phases, the one simply maintains that the regularity of menstruation is dependent upon the regularity of ovulation; the other goes a step further, and prescribes a cause for the periodicity of ovulation. The first is the form in which it is adopted by Cazeaux, as these extracts from his "Treatise on Midwifery" will serve to show:

"After having read all that has been written on the subject, the mind rests entirely satisfied in its ability to refer this singular phenomenon to one unchangeable and easily verified fact; namely, the successive evolution of Graäfian vesicles." (Second Am. edition, p. 91.)

"Menstruation is, therefore, intimately connected with the evolution of the ovarian vesicles, and can not occur without it; and every time that it appears, we may feel satisfied as to the existence of a vesicular development." (Page 92.)

"Why is it that ovulation in the human species recurs about every month? To this question science is unable to reply, for

* The law of spontaneous ovulation.

it is probably one of the impenetrable mysteries of nature." (Page 93.)

Of the second phase, our own countryman, Dr. Meigs, is probably the most lucid expounder. His views are fully elaborated in his System of Midwifery; but the following passages, the one from his work entitled Woman and Her Diseases, and the other from a note to his translation of Colombat on Diseases of Females, are more concise.

"A healthy woman matures and deposits an ovum every twenty-eight days from the age of fifteen to that of forty-five years, failing only in case of pregnancy and lactation, and sometimes not even then. She sometimes suffers an arrest of the force during lactation, yet in the majority even that arrest is of short duration; and in many it does not take place at all. The closing stage of maturing and depositing or discharging the ovum is attended with a discharge of bloody fluid from the genitalia, which is called menstruation, because it takes place once a month. That bloody fluid exudes from vessels on the inner aspect of the womb, which has become engorged in common and along with the ovary, and which, by this discharge, is relieved of its hyperæmia.

"The question as to why it (ovulation) should have so exact a periodical character, is no more difficult of solution than that of the stated periods of eruption of the first and second dentition, the growth or fall of the hair on the head," etc.

All this seems very plain and easy to be understood, and I admit would be so if there was only one ovary. There are two of these bodies, however, equally concerned in the elaboration of ovules; but numerous observations have shown that, as a rule, only one Graäfian vesicle is ruptured at a menstrual period. The question then very naturally arises, How do the ovaries divide the work between them? What is their rhythm of the action? One of two things must be the case, they must alternate month by month, first one and then the other maturing an ovule, or each in turn must remain in functional activity for two or more consecutive months, while the energies of the

other are in abeyance. Mr. Girdwood seems to have entertained the former idea, as he claimed to have met with cases in which women were known to have menstruated a certain number of times, and after death a corresponding number of cicatrices were found upon the ovaries, equally distributed between the two. In either event the removal of one ovary should affect the periodicity of menstruation. If the first supposition were correct, it would take place thereafter bi-monthly; if the second, it would be rendered irregular. But nothing of this kind ever happens. Innumerable instances are on record in which, after the extirpation of one ovary, menstruation has continued in the ordinary manner.

Here, then, we encounter a serious obstacle to our acceptance of this theory at the very first step. I am fully aware that its friends might attempt to bridge over the difficulty by a simple and ingenious hypothesis. They might say that when one ovary is removed, the other takes on compensatory action and does double duty, just as when one kidney is removed the other assumes its functions and excretes as much urine as was previously excreted by both.

To the disciples of Dr. Meigs, I would reply that this is an impossibility; for the time of ripening and rupture of each Graäfian vesicle is preördained from the birth of the individual, as much so as the "periods of eruption of the first and second dentition," etc. To the other faction I would answer somewhat more at length. In the first place, I would deny the justness of the analogy, for the ovary is not a gland in the ordinary acceptation of the term;* it neither secretes nor excretes. The rudimentary ovules exist in the embryo, and the ovaries merely afford a favorable nidus within which they are matured. Suppose the analogy were insisted upon, is it not reasonable to believe that some degree of additional development would be necessary in the remaining ovary to enable it to accomplish its task. This development would require time for its completion, and in the meanwhile we would expect menstruation to be some-

* Dalton's Physiology, p. 534.

what irregular, whereas experience tells us that single ovariotomy does not interfere with the menstrual function any more than other grave surgical operations. In many cases there is not a single interruption.

It has been justly urged against this theory, that it is not fully sustained by the results of post-mortem examinations. If menstruation is secondary to and dependent upon ovulation, then in *every* instance in which a woman dies during or soon after a menstrual period, we should be able to find evidences of the recent rupture of a Graäfian follicle. But several observers* have encountered cases in which no such evidences could be detected. In evasion of this objection, it is claimed that the vesicle may proceed in its development up to the final stage, when, without rupturing, it excites the menstrual congestion, and then aborts or undergoes a process of atrophy.† As Tilt has said, this is a virtual abandonment of the whole theory. At best it is a mere assumption, for what other proof could we possibly have of the maturation of a vesicle except its rupture?

On the other hand, ovulation may be accomplished without causing menstruation, as is shown by the frequency of conception in nursing women, when menstruation is suspended, and in young women who have never menstruated. Furthermore, it is quite certain that ovulation takes place in some persons more frequently than menstruation; that is, it happens not only at the menstrual periods, but during the interregnum. This would be inferred from the possibility of impregnation at this time, and has been ascertained to be a fact by actual observation.‡

The most conclusive of all testimony against the ovular theory of menstruation has been furnished by the results of recent operations of double ovariotomy. We now know that a woman, after this operation, may menstruate for years; in fact up to the ordinary climacteric age in a perfectly natural manner, "as to time, quality, and quantity."

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* Coste, Ritchie, Ashwell, Paget, Bischoff, Williams and others.
† See Cazeaux, p. 91.
‡ Ritchie, Lon. Med. Gaz., 1844, p. 138, case 4.

Table of Cases in which both Ovaries have been Successfully Removed from Women under Forty-five Years of Age.

No.	Operator.	Quoted from.	D'te	Age	
1	Pott..	.....	178–	23	
2	J. L. Atlee.....	A. J. Med. Sci., 1844.....	1843	29	
3	Bird.....	Lancet, 1848.....	1847	32	Menstruation uninterrupted; tendency to menorrhagia.
4	Peaslee.....	Lyman's Table.....	1850	24	
5	Burnham...-.....	Lyman's Table.....	1853	42	
6	W. L. Atlee.....	Atlee on Ov. Tumors....	1854	35	Menstruation regular. Ceased in 1869, 45th year
7	W. L. Atlee.....	Atlee on Ov. Tumors....	1855	19	Regular molimen with white discharge.
8	W. L. Atlee.....	Atlee on Ov. Tumors....	1861	40	Menstruation regular to 1863, when last reported.
9	Peaslee.....	A. J. Med. Sci., 1865.....	1862	35	
10	Peaslee.....	A. J. Med. Sci., 1864.....	1863	39	
11	W. L. Atlee.....	Atlee on Ov. Tumors....	1864	34	Last report 1870. Menstruation regular to that time.
12	Beattey	Wells, Dis. of Ovaries...	1865	37	
13	Storer.....	A. J. Med. Sci., 1865.....	1866	.....	Menstruating regularly a year after operation.
14	Storer.....	Peaslee on Ov. Tumors..	1867	43	
15	Wells'.....	Wells, Dis. of Ovaries...	1868	39	Last report one year after operation. Menstruation regular.
16	Wells	Wells, Dis. of Ovaries...	1869	22	
17	Hicks.....	Wells, Dis. of Ovaries...	1869	39	
18	Monro	Wells, Dis. of Ovaries...	1870	34	
19	Mayer.....	Wells, Dis. of Ovaries...	1871	29	
20	Meadows.....	Lancet, 1872.....	1871	.....	Last report six months after operation. Menstruation regular.
21	Priestly	Wells, Dis of Ovaries.....	1872	22	
22	R. A. Jackson...	Peaslee, Ov. Tumors.....	1865	44	* Continued to menstruate to the 47th year of her age.
23	Le Fort.....	Peaslee, Ov. Tumors	.....	.....	Menstruation regular.
24	Baker Brown....	Peaslee, Ov. Tumors.....	.....	.....	Menstruates, but not regularly.
25	Baker Brown....	Peaslee, Ov. Tumors.....	.....	.....	† Menstruates regularly from cicatrix and vagina.
26	Koeberle	Peaslee, Ov. Tumors.....	.....	.....	Menstruation regular.
27	Battey.....	Personal information...	1872	23	Irregular sanguineous discharges: sometimes profuse.

Clay, of Manchester, had four cases in which there was subsequent sanguineous discharge.—(Peaslee.)

* "Her regular monthly period had ceased the day before the operation. A flow per vaginam recurred thirty days afterward, and continued four days, with the usual symptoms of lassitude, nervousness, and backache. It again appeared after an interval of eighty-three days; and after this time it recurred with perfect regularity every twenty-eight or twenty-nine days for twenty-two months, accompanied by all the ordinary symptoms of menstruation, and lasting each time from three to five days; it then ceased for four months, to reappear the last time; the patient being now forty-seven years of age. During all the time, the patient's health was exellent, and Dr. Jackson satisfied himself that there was no disease of the uterus or vagina."

† The whole uterus, except cervix, removed with ovaries.

In order to determine as accurately as possible the effects of the removal of both ovaries upon the menstrual function, I have carefully examined and arranged in the preceding table all the cases of which I could obtain reports. In every instance in which no mention is made of subsequent menstruation, I have taken it for granted that it did not occur, and irregular sanguineous discharges I have, of course, not counted as menstrual.

Of the twenty-seven cases here recorded, it will be observed that in nearly half, menstruation was not affected by the removal of the ovaries; in one the hæmorrhagic discharge was increased (3); in one it was diminished (7); and in several sanguineous flows occurred at irregular intervals (24 and 27).

The only explanation that can be offered by those who still adhere to the ovular theory of this persistence of menstruation, is that it is due to the force of habit. Yet in case No. 22 the function was suspended for three months at one time, which we would suppose should have been sufficient to have broken up the habit. But such an explanation is unscientific, as well as unsatisfactory; in fact, it is no explanation at all. Habit may be defined to be a facility or a proneness for the performance of any act in consequence of its frequent repetition, and may for our present purpose be divided into two classes, entitled respectively habits of aptitude and habits of recurrence. A habit of aptitude is simply a facility acquired by practice, as when we say, "this man sleeps soundly in spite of the noise, because he has acquired the habit of doing so." Our so-called habit of menstruating belongs to the second class. The most familiar example of this is the habit of "regularity of the bowels." It is well known that if a person will persistently solicit a movement of the bowels daily at a fixed hour, in the course of time he will experience an inclination to go to stool regularly at that hour. This is said to be the result of force of habit. Let us investigate the subject, and see if we can not arrive at a more accurate understanding of it. The enforced regularity engenders a healthy state of the bowels, promotes its secretions and peris-

taltic action, and restores its nervous sensibilities to a normal condition; the rectum being each day subjected to about the same distension before it is evacuated, acquires a tolerance for the presence of a certain amount of fæcal matter, and, after awhile, whenever this quantity has accumulated, an impression is made upon the nerves of the part and transmitted to the sensorium. It might still be said that it is the nerves which have acquired a habit of responding to a given degree of irritation. True, but this is a habit of aptitude, not a habit of recurrence; no one would pretend to say that a sensation would be experienced if there were no fæcal matter in the rectum. Here, then, is a habit analyzed and rationally explained; and all habits of recurrence may be treated in a similar way and attributed to some antecedent cause or causes. This fact has long been recognized in mental philosophy, some writers considering all habits in which a mental process is concerned as the result of an association of ideas.* Thus, we perceive, the word habit is used either as a short way of expressing a complex series of acts, or as a cloak to cover our ignorance in obscure cases. There must be a cause for menstruation after the removal of the ovaries. Is it not probable (yes, I may say certain,) that it is the same cause which existed previously? The ovaries being wanting, there are no vesicles to rupture. The logical conclusion is, that the periodicity of menstruation never did depend upon the discharge of ovules.

This conclusion can not be disputed if our premises are admitted. We have proceeded upon the hypothesis that the Graäfian vesicles exist only in the structure of the ovaries, and that the ablation of the latter would necessarily involve their removal from the economy; but this point deserves some consideration. Spencer Wells remarks:† "The ovaries are usually two in number; not necessarily so, for their essential elements may be dispersed between the layers of the peritoneum, as in the lower animals. Ovisacs or Graäfian vesicles have been seen developing in some of the mammalia at a distance from the

* Dugald Stewart.

† Diseases of the Ovaries, p. 11.

entire ovary." In another place he speaks of the development of vesicles thus situated into unilocular tumors. Savage says nothing on the subject himself, but gives the following obscure quotation from Sappey:* "It is not a rare circumstance to find on the alar mesentery, especially 'round about the ovary, ten, fifteen, twenty, or more even, cystic ovules, some of them the size of a pea. Such ovules having failed to reach their destination, owing to some abnormal relations on the part of the Fallopian tube."

I have looked through all the writings at my disposal, and conferred with several anatomists and physiologists, to obtain definite information on this subject, but without success; and my own limited investigations on the cadaver have resulted negatively. No observations would be of value unless accompanied by a microscopic examination, in order to determine by the detection of the ovules whether small cysts found in this locality were truly Graäfian follicles. In the ordinary operation of ovariotomy, a considerable portion of the broad ligament contiguous to the ovary constituting the pedicle, is excised. In Baker Brown's case (No. 25), the whole of the uterus, except the cervix, was removed with the ovaries. Storer reported a case in the "American Journal of the Medical Sciences," 1868, in a woman forty-seven years of age (consequently not included in the table), from whom he removed the uterus and both ovaries. Yet on the eighteenth day after the operation and the twenty-sixth day after the last appearance of the catamenia, "there occurred a sanguineous effusion, attended by feelings of lassitude, backache, etc., lasting thirty hours, and being an evident attempt at the reëstablishment of menstruation."

I think it a very fair conclusion, that if such vesicles really existed, they were totally extirpated in some, if not in the greater part, of the thirteen cases in which menstruation continued after the removal of both ovaries. Even if some of them remained, it is clearly impossible that they could have

* Savage on the Female Pelvic Organs.

been sufficiently numerous to have afforded a ripened vesicle every month for ten or more years. Their only effect would have been to stimulate the nervous system and maintain in a more perfect degree its ovarian development.

The foregoing objections are only a tithe of those that may be offered to the ovular theory of menstruation, but they are enough to compel me to reject it. It must not be inferred, however, that I deny all influence to the ovaries in determining the menstrual function. Observation has conclusively demonstrated that the presence of mature Graäfian follicles within the organism of the individual is absolutely necessary for its primary establishment; for, in every instance in which the ovaries have been congenitally absent, or artificially removed before the period of puberty, menstruation has failed to take place. The ripening of the germ cells exerts an influence upon the female economy generically similar to but specifically different from that which the ripening of the sperm cells has upon the economy of the male. The evolution of spermatozoa by the testes reäcts in some mysterious manner upon the nervous system and determines characteristic changes in distant portions of the body, especially the development of the larynx and the growth of hair upon the face. So in the female the maturation of ova creates an erethism of the nervous system that results in structural changes throughout the entire organism, the minute ramification of which we can not trace, but its grosser manifestations are seen in the expansion of the pelvis, the enlargement of the breasts, and the increase of the adipose tissue. The power to develop hair upon the face may be considered an inherent power of the economy, since rudimentary hair bulbs preëxist in that locality; and the same may be said with reference to the power to develop the larynx, the pelvis, the breasts, and the adipose tissue; the state of the generative centres simply calling these powers into play. Sometimes in consequence of disordered states of the generative organs, this synergy of the nervous system is perverted from its usual channels, and other innate powers are aroused. A marked case of

this kind is reported in the "London Medical Gazette" for 1843–4, in which suppression of menstruation, due to an acute affection of the ovaries arising from exposure to cold, was followed by a growth of hair over the whole surface of the body. Is it not a legitimate inference that *the Law of Monthly Periodicity which dominates the menstrual function is also inherent in the animal economy, and is simply stimulated into activity by the ovular erethism?*

When once the physical modifications referred to have been induced at the period of puberty, the subsequent removal of the testes or ovaria does not necessarily cause them to recede. Sometimes there is a tendency to a return to a neutral type, as was evinced in Pott's celebrated case, where, after the removal of both ovaries, the voice became coarser, the form more angular, etc. On the other hand, after many of the operations of double ovariotomy, no loss of womanly attributes has been noticed; and almost every surgeon is familiar with cases of castration of men where the voice and personal appearance have remained unchanged. If, then, the manifestation of the Law of Periodicity has an origin in common with the physical alterations—that is, depends on the same condition or development of the nervous system—we would expect that it would exhibit an equal tendency to permanency after the withdrawal of the primary exciting cause. In this way alone can we account for the persistence of menstruation after the removal of the ovaries.

To what extent does this law prevail? Is it an essential, all-pervading principle of life, under ordinary circumstances accomplishing its work without external signs? Or is it a dormant energy of the system, which is only exerted in order to accomplish a specific purpose? If it were the first, we would expect to see it occasionally displayed in the male subject. It is true, instances of this kind have been reported, but all of them will be found, upon investigation, to be open to charges of error. In the "American Journal of the Medical Sciences" for 1853, there is an account of a being who, in all external appearances,

seemed to be a man, in whom menstruation occurred regularly from the urethra. After death, an examination revealed the fact that the creature was an hermaphrodite. In the same journal for 1867, there is another case, in which a young man is said to have experienced a monthly sanguineous flow from the glans penis. Such cases, even admitting their authenticity, are incomplete without a post-mortem examination to demonstrate the absence of the ovaries. There is still another class of cases in which the symptoms are too vague and shadowy to deserve notice. In short, there is a total absence of positive proof that periodic phenomena of a monthly type are ever present in the human male.

The statement of naturalists with reference to periodicity among the lower animals is very unsatisfactory. This is due, in part, to the fact that most of them being converts to the ovular theory, have regarded menstruation and œstruation as analogous.

According to Saint Hilaire, menstruation occurs in several species of monkey every month, and is exactly similar to the process in the human female. Dr. John Percy, of Birmingham (quoted by Girdwood), says he has had constant opportunities of observing the female mandrill and drill during four years. "At intervals of *about six or eight weeks*, the labia become uncommonly distended, red, and shining. The swelling proceeds gradually and attains its maximum in about five days or a week. It then gradually declines, and a quantity of sanguineous discharge makes its appearance, generally, though, so far as I have observed, not uniformly." Dr. Girdwood maintained that each genus of the mammalia has its own catamenial cycle, and endeavored to determine them chiefly by a microscopic examination of the vaginal discharges. To the rabbit, he assigned ten days; to the mare, a fortnight; to the cow, three weeks; to the dog, twelve to sixteen days, and so on. All that can be deduced from such testimony is, that if there are periodic phenomena among the lower animals, they are confined to the female sex, and are, as a general rule, of a different type from

those observed in the human species. I would, therefore, conclude that the Law of Monthly Periodicity is not an essential element of organic life, and is inoperative, except in the human female, and possibly in the female of some of the higher mammalia, where it subserves a special purpose in connection with the process of reproduction.

Let us next inquire somewhat more closely into the nature of this law. "Laws of animal nature," says Webster, are "the inherent principles by which the functions of animal bodies are performed." These principles are not always primary in their character, but are, as a rule, resultants of antecedent acts which take place with sufficient precision to establish the principle or law for the government of the consequent function. The Law of Monthly Periodicity is that which governs and determines the periodic return of those phenomena which collectively constitute menstruation, and must necessarily be the result and exponent of certain changes or series of changes that transpire within the organism in recurring cycles; these cycles being uniform in their duration, definite in their manifestations, and common to woman-kind. The essence or factor of the Law, then, is a dynamic cycle of physiological acts. But in what part of the system does this cycle revolve? Where is the seat of these changes?

Not in the ovaries, as Tilt supposed, for their annihilation does not always arrest the action of the law.

Nor in the uterus, for women in whom this organ has been congenitally absent, have experienced unmistakable signs of monthly periodicity.

Paracelsus, DeGraff, and others located the process in the blood. Nature has negatived this class of theories by presenting us with the Hungarian Sisters, in whom the bloodvessels were united at the loins, thus giving them a common circulation, but their menstrual periods were different.

Tyler Smith has advanced an ingenious hypothesis, according to which the monthly cycle is attributed to reciprocal action between the uterus, ovaries, and mammæ. But, as we have

seen, two of these supposed agents may be withdrawn with impunity.

An affirmative answer to this question is just as easy and may be just as absolute as those in the negative. There is not the slightest doubt that the functional process by which the monthly cycle is accomplished is seated in the ganglionic nervous system. The expansion of the pelvis, the growth of the breasts, and the increase of adipose tissue which take place when the young girl arrives at the age of puberty, depends upon a modification in the nutrition of the parts, and that nutrition throughout the body is presided over by the ganglionic nerves, no one at the present day will deny. In order to achieve such important variations from the previous course of nutrition, the nervous tissue itself must undergo structural development, which, as we have already said, like all other structural alterations, has a tendency to be permanent. In the course of this development, the elements of the Law of Periodicity are elaborated and the series of changes constituting the monthly cycle are instituted. The operation of the Law, being usually declared through the circulation (by means of hæmorrhages) which, like nutrition, is controlled by the ganglionic system.

This is the limit to which inductive reasoning will carry us at present, and it is better to await the results of observations than indulge in vague conjectures. What the nature of the changes is, and in what part of the sympathetic system these occur, I leave to anatomists and experimental physiologists to discover.

The only practical bearing of these views to which I will allude at present, is with reference to the operation of "Normal Ovariotomy." The originator of this operation, Dr. Battey, anticipated that it would bring about an artificial menopause. In this he will certainly be disappointed in at least half the cases. But it does not seem to me absolutely essential to the success of the operation that it should arrest the progress of the Law of Monthly Periodicity and put a stop to menstruation. That

the ovaries continue, after puberty, to affect the general system, and that this influence is even necessary in many individuals to maintain the sexual development in a perfect degree, is undoubtedly a fact, as is shown by an appreciable loss, in some instances, of sexual traits, including the cessation of menstruation upon the removal of these organs. In diseased conditions of the ovaries this reäction is perverted, and very distressing pathological states, especially of the nervous system, arise in consequence. Such examples are frequently encountered in practice, and a conclusive, though an anomalous, one has been referred to in this article (see p. 563). It is in severe and intractable cases of this kind that good results are to be hoped for from the operation alluded to; for it is reasonable to believe that when disordered action arises from an unnatural irritant, a withdrawal of the irritant will permit the functions to return to their normal channels.

ART. II.—PLASTIC OPERATION FOR RESTORATION OF LOWER LIP. By M. F. HULLIHEN, M. D., Wheeling, West Va.

The following is a short account of an operation undertaken for the restoration of the lower lip, etc., in the case of William Stiles, of Belmont county, Ohio. Mr. S. had been a soldier during the late war, and upon July 20, 1864, at the battle of Peach Tree Creek, Ga., he received an injury, a description of which is subjoined in his own words. "I was wounded by a minnie ball; the ball struck the left side of my lower jaw, passing through and breaking the jawbone into three or more fragments; also completely tearing away my lower lip and a large section of the jawbone containing the teeth in front. From the time I was wounded until the 1st of November, I was was under the care of a number of different army surgeons; none of them did anything for me; by this time my wound was healed, leaving me in place of a mouth a round hole. My

articulation was almost entirely gone, while the saliva kept running out continuously. During the following six years, I was the subject of four different operations for the removal of the deformity, in Pennsylvania, New York, and Ohio, but all without benefit."

The above description, assisted by photographs of Mr. S.,* taken before and after the operation performed, conveys pretty accurately the nature of the injury and the character and extent of the deformity.

The conspicuousness of such an organ as the lower lip, its absolute need for proper articulation, and for the prevention of an incessant and involuntary flow of saliva, made the patient very anxious, notwithstanding preceding failures, that another operation for his relief should be attempted.

The lower lip was entirely wanting; an unsightly orifice one inch and a half in width by one inch and three-quarters in length, with edges scarred and cicatrized, and entirely devoid of prolabium, or the least vestige of mucous membrane alone remained. This orifice the patient kept covered with a piece of leather as a substitute for a lip, which in a measure prevented the escape of saliva, and assisted somewhat in articulation. Measuring vertically, about one-half of the lower maxillary bone from the second bicuspid tooth on the left side to the first molar tooth on the right side, together with all the intervening teeth had been shot away.

Upon December 6th, at the Wheeling Hospital, assisted by the late Dr. J. Weisel, I performed the operation here described.

The patient being seated in an operating chair, chloroform was administered by Dr. Weisel.

I made incisions one inch and a quarter in length, carried in a straight line from each commissure of the mouth, directly into and entirely through the substance of each cheek. From

* These photographs accompanied the reading of this paper before the State Society.

the outer extremity of these incisions, another incision was made obliquely downwards to the margin of the orifice, thus forming a triangular flap in each angle of the mouth. The mucous membrane lining the flaps thus formed, including a proper amount of structures beneath to insure vitality, were, save at the point of their lower attachment, carefully dissected away, after which the flaps were removed. The bases of these flaps pointed directly to each angle of the mouth, and measured in width (with a proper allowance for shrinkage), the distance it was necessary to raise the portion of chin out of which it was proposed to form a new lip.

After the bleeding ceased, an incision was made on the inside margin of the callous tissue forming the base of the orifice, and the skin and subjacent textures were dissected away from their attachments to the lower maxillary bone, until they were capable of being raised up to the desired position without the least stretching. This perpendicular incision was commenced at points nearly opposite the first molar tooth upon each side of the mouth, and extended from the margin of the orifice to a point fully half an inch beyond and around the base of the chin. Great care was taken not to wound, if possible, any of the large vessels, nerves or ducts.

The chief difficulty anticipated in the operation was in being able to prevent the new lip from healing and cicatrizing down upon itself; the entire absence of mucous membrane making such a result more than probable. It was the same difficulty on a very much larger scale, that renders operations in cases of Symblepharon, as a general thing, so unsatisfactory.

At this point of the operation the mucous membrane, saved and dissected from the flaps removed at each angle of the mouth, was successfully utilized.

The bleeding having ceased and the chin substance being raised to its proper position as a lip, these thin flaps of mucous membrane were carefully turned around and secured to it with fine sutures of silk, forming in their joint extent a very respectable amount of inner lining. Elliptical incisions had been

carried into the mucous membrane of each cheek, in order to allow these flaps being easily and properly turned into position. The parts were now brought loosely together, and the patient placed in bed.

In the morning he was quite comfortable; the loose dressings were undone, and the raw and cut surfaces, from which all bleeding had ceased, were exposed. The teeth remaining in the back and uninjured portion of the lower jawbone, three on one side and two on the other, stood elevated fully one and a half inches above the line of cut surface that covered what was remaining of the front and injured portion of the same bone. A large dental impression cup, especially contrived for the purpose, was filled with prepared plaster of Paris, and an accurate impression of the parts was obtained. From this impression Dr. A. H. Fleming, dentist, by the evening of the same day, succeeded in making in rubber a very good substitute for the portion of jawbone that had been shot away and which was surmounted by the proper number of artificial teeth. After the insertion of this plate the parts were all brought securely together, the angle of the right side of the mouth being alone left open to permit of any future manipulation that might be necessary. Sister Blanche, one of the attendants at the Hospital had made, under my direction, a tight-fitting skull-cap, and a stirrup fitting accurately under the chin, furnished with a number of strong straps and buckles. After cropping the hair closely, these were applied, and by their means, with scarcely any other dressing, the parts were kept properly in position. Healing took place rapidly. The patient, notwithstanding the presence of a heavy plate of rubber, which from shrinkage of the parts it was found necessary to alter at different times, made but little complaint. In about three months' time, the right angle of the mouth, which had all along been kept open, was allowed to close, and the operation was finished. Mr. S. made a complete recovery of the power of articulation and of retaining saliva.

Possessed of a heavy beard, his appearance is now such that

no one without actual examination, could detect that he had been the subject of such a severe surgical operation.

The foregoing is simply a bare outline of the operation performed. Anything like a circumstantial account, involving descriptions of daily dressings, appearance of patient, etc., etc., was deemed unnecessary.

ECLECTIC DEPARTMENT.

"Carpere et colligere."

ART. I.—REPORT* OF AN AUTOPSY ON THE BODIES OF CHANG AND ENG BUNKER, COMMONLY KNOWN AS THE SIAMESE TWINS. By HARRISON ALLEN, M. D., Professor of Comparative Anatomy and Zoölogy in the University of Pennsylvania, Surgeon to the Philadelphia Hospital, etc. [Read before the College of Physicians, April 1, 1874.]

ANTE MORTEM HISTORY.

Chang and Eng Bunker were born near Bangkok, Siam, in 1811, their father being a Chinaman, their mother a native of Siam, bred by a Chinese father.†

The twins were united by a band extending from the junction of the abdominal and thoracic cavities, anteriorly, constituting the variety in teratology known as omphalopagus xiphodidymus.

They were married in April, 1843, and raised large families; Chang having had ten, and Eng twelve children. Chang had three boys and seven girls; Eng had seven boys and five girls.

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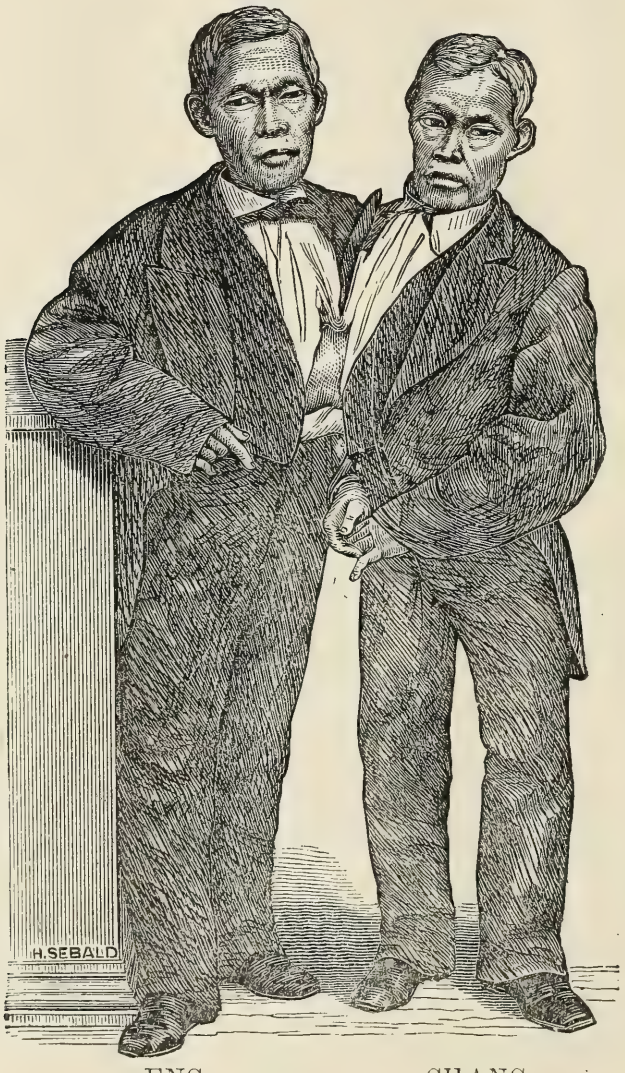
* The word "report" used in the title of my paper is to be read as referring to the post-mortem appearances only, and not to the Report of the Commission as appointed by the College. The ante-mortem history prefixed to my paper was written in conjunction with Professor Pancoast. H. ALLEN.

† For this statement see an article in Lippincott's Magazine, March, 1874.

These were in all respects average children, excepting two, a boy and a girl of Chang's, who were deaf-mutes.

The twins resided in a rolling country, about four miles from



ENG CHANG

FIG. 1. The twins in the acquired position (E. R., C. L.). From a photograph taken in St. Petersburg, 1870.

Mount Airy, Surrey county, N. C. They were prosperous farmers, each owning his own farm. The dwellings of the two families were a mile and a half apart. The twins resided three days in each of the homes alternately. They were expert in the handling of tools, in plowing, shingling, shooting, etc.

They lived much in the open air, and frequently drove in a carriage to the neighboring village.

The events leading to their death were as follows: About six years ago Chang, who had always been the more excitable, became addicted to immoderate drinking. Three years ago, while on a voyage from Liverpool to New York, he was stricken with hemiplegia of the right side. He in a great measure recovered from this attack, but could never ascend and descend stairs with facility. For this reason the twins occupied rooms on the ground floors of their homes.

On Monday evening, January 12, 1874, Chang was seized, while at his own house, with an attack of bronchitis. He had a cough; scanty, frothy sputa; but no pain. On Wednesday the symptoms had somewhat subsided; the skin was acting freely. Loud bronchial râles were present over the left side of the chest. On Thursday evening the twins insisted upon leaving Chang's house for Eng's. The weather was very cold, and the journey was undertaken in an open carriage. On their arrival, however, Chang continued as well as before, until Friday evening, when he complained of thoracic oppression and inability to lie down with comfort. After having retired that evening, the twins were heard to get up and go out on the porch, by the side of the house, where they drank of water, and returned to their room. They built a large wood fire and sat down; Eng soon complained of being sleepy, Chang declaring that he could not breathe if he should lie down. Finally they again retired. They both fell asleep. Near daybreak (January 17th) Eng called to one of his sons, who slept in a room above, to come down and waken Chang. The boy soon made his appearance, and going to the side of Chang, cried out, "Uncle Chang is dead!" Eng at once said, "Then I am going!" It is probable that Chang was sleeping when he died.

Eng made no further mention of Chang other than to request that the body be moved closer to him. Soon afterward Eng desired to have his limbs moved. This desire continued for half an hour. He then asked for a urinal, but did not void over

a few drops of urine. He several times repeated the endeavor to micturate, but without success. He then complained of a choaking sensation, and asked to be raised in bed. He had continued rational. His last words were, "May God have mercy on my soul!" He gradually became fainter, fell into a syncopal state, and died quietly a little over two hours from the announcement to him of the death of his brother.

AUTOPSY.

The Autopsy was begun in the house of Eng, Sunday, February 1st, 1874, and finished in the Mütter Museum of the College of Physicians, at Philadelphia.

Age of subjects, 63 years. Examination made about fifteen days and eight hours after death. The weather had been cold. No preservative had been employed prior to the date of the autopsy.

I. POST-MORTEM APPEARANCES.

The following is their description in Chang:

Body moderately emaciated. Rigor mortis none. The fingers of the right hand were semi-flexed, a condition due doubtless to the long-standing paralysis of the right upper extremity. Passive congestion was marked over entire dorsal aspect of the neck, trunk, and upper extremities. It was less marked over the corresponding surfaces of the forearm and legs. The feet and hands were almost entirely free. The superficial veins in the last-named localities, especially in the left foot, were distended. The passive congestion extended over the right thoracic region as far as the median line, and on the front of both thighs, especially the right. Upon the head the congestion was seen behind and beneath the ears, and was sparsely distributed over both malar prominences. The lips were discolored. The integument of the genitals was infiltrated, the scrotum particularly being much swollen. There was extensive greenish discoloration on the anterior abdominal wall. The left external abdominal ring was enlarged. Both testicles were within the

scrotum. The hair of the head was gray. That on the right side of the pubis was black, that on the left was of an iron-gray color.

The following is their description in Eng.

Body moderately well nourished, spare. Rigor mortis slight. Passive congestion less marked than in Chang. It was most conspicuous on the buttocks and infraspinous spaces. There was none in front of the body. The testicle of left side absent from scrotum. There was moderate greenish discoloration of anterior wall of abdomen. The hair on the pubis was black on the right side, pure gray on left side of the median line.

Measurements.—Chang was 5 feet 2½ inches in height; Eng 5 feet 3½ inches. When the bodies were laid upon a table, Chang's left side and Eng's right side were drawn somewhat toward one another. This was most marked in Chang, and gave a greater inclination of his trunk toward his brothers. (See Figs. 1 and 19.)

II. EXTERNAL APPEARANCES OF THE BAND.

When the bodies were suspended and placed face to face, it was evident that the congenital position had been secured. All observations were made, as far as possible, with the bodies in this position. With it the details of structure, it was thought, could be easily understood; without it the subject would be difficult and confused.

The "band" was a massive commissure placed between the bodies at the junction of the abdominal and thoracic regions of each. It was broader above than below, and had a circumference of nine inches. It presented four surfaces for examination, an upper, lower, and two lateral surfaces.

The *upper* surface was somewhat flattened in both Chang and Eng. The ensiform cartilage of each body could be felt deflected from the sternum and prolonged into the band. The base of the cartilage in Eng presented a rounded circular eminence, measuring one inch in diameter. There was no corresponding eminence in Chang. The upper aspect of each pro-

cess could be well defined beneath the skin, the subcutaneous connective tissue being more abundant in Chang than in Eng. The upper surface measured two and one-half inches in width at its base toward Eng, and two and one-third inches at the base toward Chang. It was two inches wide at its middle.

FIG. 2.

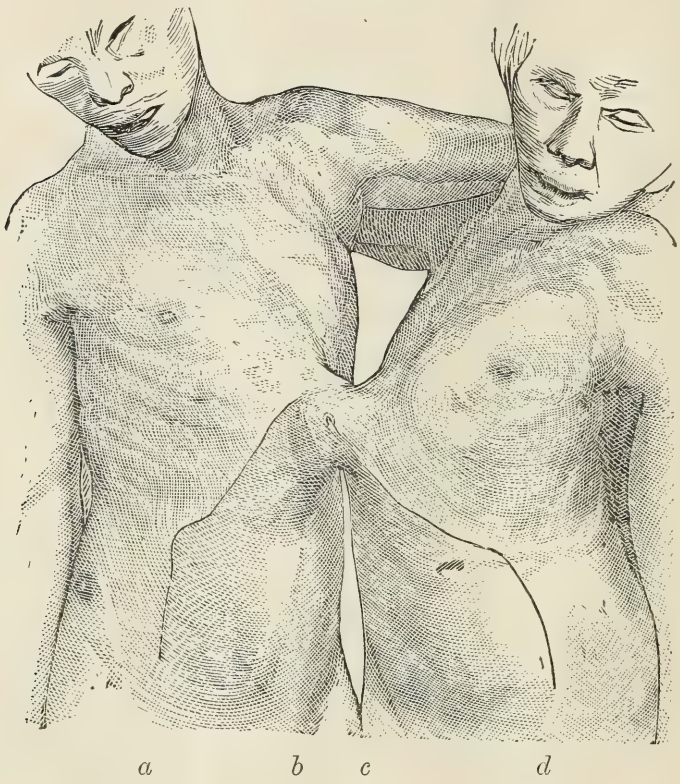


FIG. 2. The twins in the acquired position (E. R., C. L.), showing band and the primary incisions, *a-b*, *c-d*. From a photograph taken after death at Philadelphia.

The *lower* surface was much narrower than the upper. It was marked in the centre, but nearer the anterior than the posterior border, by a linear scar one inch in length, which it was thought answered the position of the single umbilicus. The skin was adherent at this point, but elsewhere was easily raised in folds. Behind the scar—i. e., toward the posterior part of the band, the skin was somewhat corrugated. This portion answered, in position, to Chang's umbilical pouch.

The *lateral* surfaces. The terms *upper* surface and *lower*

surface have fixed values, no matter how they may be approached by the observer. This is not the case, however, with the lateral surfaces, as will appear from the following considerations. Viewing the band as a separate form—as it was spoken of during the life of the twins—we will see that the terms front ("anterior") and back ("posterior"), as given to the lateral surfaces, were derived from studying the acquired position. Thus we were bound not to cut the "front" of the band, but allowed to make an incision on the "back." Now this position of selection was destroyed, and its terms deprived of what meaning they may have had, by the reproduction of the congenital relations of the bodies.

There is no doubt that in infancy and early childhood there was no acquired position, and, therefore, neither "front" nor "back" to the band. And later, when, as we have reason to believe, the position of selection was gradually adopted, the terms "front" and "back" were reversible—the "front" meaning that which corresponded to the surface of least thoracic approximation. Thus when the adult condition was fixed, and the "front" answered to the widely separated right side of Eng's chest and left side of Chang's chest, the "back" was in relation with the closely approximated left side of Eng's chest and right side of Chang's.

To avoid awkward repetition of phrases expressing the facts of the last sentence, the following characters will be employed in describing the "lateral" surfaces of the band.

E. R., C. L. (Eng's right, Chang's left) will designate the "anterior" surface of the acquired position. C. R., E. L. (Chang's right, Eng's left) will designate the "posterior" surface. Since the right side of Chang's half of the band merged into the left on Eng's half, while the right side of Eng's half, after it passed the middle line, became the left half of Chang's, we propose using the characters E. L., E. R., and C. R., C. L., which will be understood as signifying left side Eng, right side Eng. etc.

Using the above signs, we found that the surface E. R., C. L.

was inclined decidedly downward and backward when seen in the congenital position, and was three inches high and two and one-half inches wide. At E. R., the border answering to the ensiform cartilage was marked by a large rounded tubercle; it was much more pronounced than on the corresponding border of C. L. When seen in the acquired position, E. R., C. L. became "anterior," when, at its upper margin, C. L. was longer than E. R. by one-half inch. The tubercle on E. R., already noticed, was much more prominent than C. L. The contour of the inferior margin was also different, being more uneven. C. L. not only longer, but was more obliquely placed downward and outward to the centre of the band than E. R. (See cast in the Mütter Museum.)

III. COVERINGS OF THE BAND.

In front (E. R., C. L.) the superficies could not be well examined, owing to the restrictions imposed by the families. A view of it from within can be obtained in Figs. 8, 9, *q. v.* Permission having been granted to make an incision "behind," at C. R., E. L., a modified letter-H incision was employed, thus:

Turning the skin flaps here indicated upwards and downwards, and the lateral triangles outwards, there was found beneath, a layer of superficial fatty connective tissue, with a well-defined layer of fat on either side, but with an intermediate portion which was free from fat, and of greater thickness.

The skin could, with some little trouble, be raised over he *dorsal or upper surface*, showing here entire absence of fat. A very delicate artery was found running across the middle, from Eng to Chang.

The lower portion of the surface C. R., E. L. was inseparably connected with the umbilicus. It was also united to the superficial fascia on C. L., about one and a half inches from the

umbilicus; this did not have any connection with the deeper parts. The process of fibrous tissue which had been felt through the skin was conspicuous on this surface of the band, and was covered by a delicate non-fatty layer of connective tissue. Towards the lower part of the surface were seen several diverging lines of fibrous tissue, which were lost within the integument

FIG. 3,

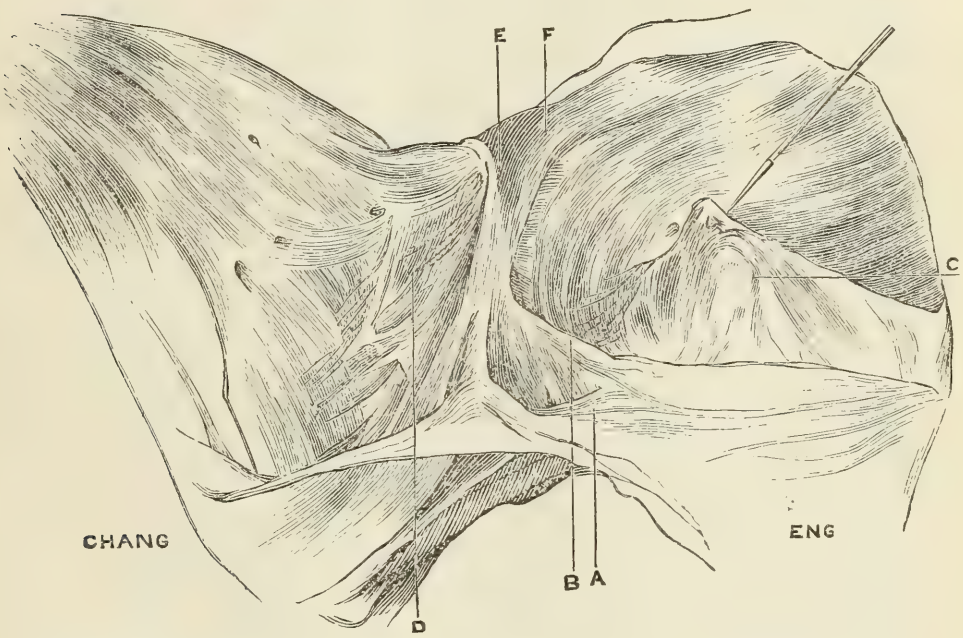


FIG. 3. The surface, C. R., E. L., exposed by removal of skin and superficial fascia to display the tendons of the external oblique muscles and adjacent parts.

A. The superficial fascia—lost over the position of Chang's umbilical pouch.

B, C. Supplemental layers of fibrous tissue of Eng not seen in Chang; B is a continuation toward Eng of aponeurotic fibres having a source from the linea alba of Chang; C is independent of the former, and is continuous with the deep pectoral fascia.

D. The interlacing of fibres on tendon of external oblique muscle of Chang.

E. The linea alba of Chang, beginning at C. R.

F. Its continuation to E. L., and insertion upon the ensiform cartilage.

about the umbilical scar, at the lower surface of the band. They were exceedingly thin, and at one point lay directly over the posterior and inferior wall of the umbilical pouch of Chang.

Turning down the superficial layer, the aponeurosis of the external oblique muscle was exposed (Fig. 3). A marked con-

trast was exhibited in the two sides of the band. In Chang the parts were normal so far as they were exposed—the characteristic apertures for the escape of small vessels being abundant and conspicuous. In turning down the superficial fascia in Eng (Fig. 3, A), it was found to be continuous at is lower portion with an aponeurotic layer (Fig. 3, B), which extended toward the median line, where it was continuous with the linea alba of Chang. In addition to this, a second layer (Fig. 3, C), analogous in position to a deep layer of the superficial fascia, which was entirely independent of Chang, extended nearly over the whole of Eng's division, and was particularly well defined over the fibres of origin of the external oblique muscle. This was continuous with the deep layer of the superficial fascia which passed over the entire side of Eng's thorax.

Toward the middle of the band this layer gradually lost its distinctive features, and was firmly incorporated with the tendon of the external oblique muscle. A number of fibres corresponding to it extended in inseparable intimacy with this tendon. These were gradually lost as they approached the linea alba of Chang, and the parts being in position these fibres were at their lower portion covered in by the aponeurotic extension of the linea alba already mentioned.

On Chang's side, as we have seen, the parts comparable to these accessory layers were absent. There was no line of demarcation between the tendon of the oblique and the aponeurotic attachment of the pectoralis. The tendon of the external oblique presented a different appearance from the normal one in a more extensive interlacing of fibres of the linea alba with the tendon.

The part termed above the linea alba of Chang (Fig. 3, E), has already been indicated through skin and superficial fascia. As can be seen, this band of fibres, having its origin from the middle line of the abdomen of Chang, was found to be a direct continuation of the linea alba. It was remarkable in not being inserted into the ensiform process of Chang, but into that of Eng, and in giving off the aponeurotic outshoot B, already no-

ticed, as well as in having a diffused point of insertion into Eng's tissue as in the ensiform cartilage (F). In a word, the linea alba approaches the surface C. R., E. L. from C. R. below, and is inserted into E. L. above.

IV. ORGANS OF ABDOMEN AS OBSERVED IN POSITION THROUGH THE INCISION.

Limited incisions being alone permitted, the large vessels of the abdomen were sought for in the process of embalmment, believing, as we did, that the procedures of securing them would enable us, by extending the cuts from below upward, to fairly open the abdomen and examine thereby the interior of the band.

In each body, therefore, an incision six inches long (Fig. 2, *a b*, *c d*) was extended from the center of the right iliac region to the centre of the right hypochondriac region. This was subsequently joined by an oblique incision passing from the upper end of the first mentioned to the lateral border of the ensiform cartilage at its base. This incision measured seven and one-half inches. The lower end of the vertical incision was met by a horizontal one passing to the centre of the hypogastric region, and measuring three and one-quarter inches.

Through these incisions were studied (1) the *umbilical ligaments* and (2) *the abdominal viscera.*

1. *The Umbilical Ligaments.**—By turning forward the anterior flap in Eng as far as possible, the peritoneal lining was exhibited, and there was brought into view a structure beginning at the summit of the bladder, and which, ascending the abdominal wall and passing obliquely to the right side, could be traced clearly to the scar-like tissue marking the remains of the umbilical structures situated upon the anterior abdominal wall within about one and one-half inches of the band. This structure was the umbilical ligament (Fig. 4, A). It was loaded with fat, and, as it terminated at the scar, distinct lobules of

* The folds of peritoneum containing remains of the hypogastric arteries will be called throughout by the name of umbilical ligaments.

fat (several of which were pedunculated) were abundantly deposited.

The bladder was distended and raised five inches above the pubis.

FIG. 4.

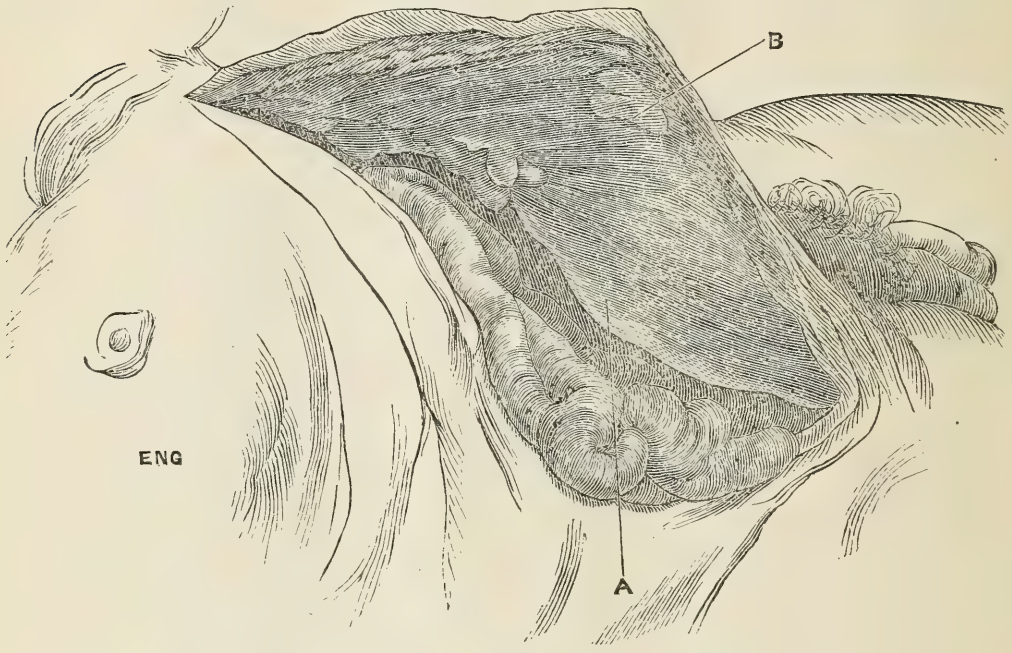


FIG. 4. The umbilical ligament in Eng.
A. The umbilical lagament.
B. The lobule of fat at position of the normal umbilicus.

In Chang (Fig. 5), the same appearances were seen as those above given, save that no fat was deposited in the umbilical ligament. On the contrary, it resembled the omentum of an emaciated subject. When stretched, the fold was fully an inch wide, quite transparent, and marked by two longitudinal bands, which recalled the shapes of the obliterated vessels. But two rather small sessile fatty appendages were seen at the scar.

The bladder was empty, contracted, and lay within the true pelvis.

In both Chang and Eng an isolated mass of sub-peritoneal fat, presenting a sub-circular form, and measuring one inch in diameter, was found in the position of the normal umbilicus (Figs. 4 and 5).

2. *The Viscera.*—In Eng the omentum was gathered up toward the transverse colon. It was abundantly furnished with

FIG. 5.

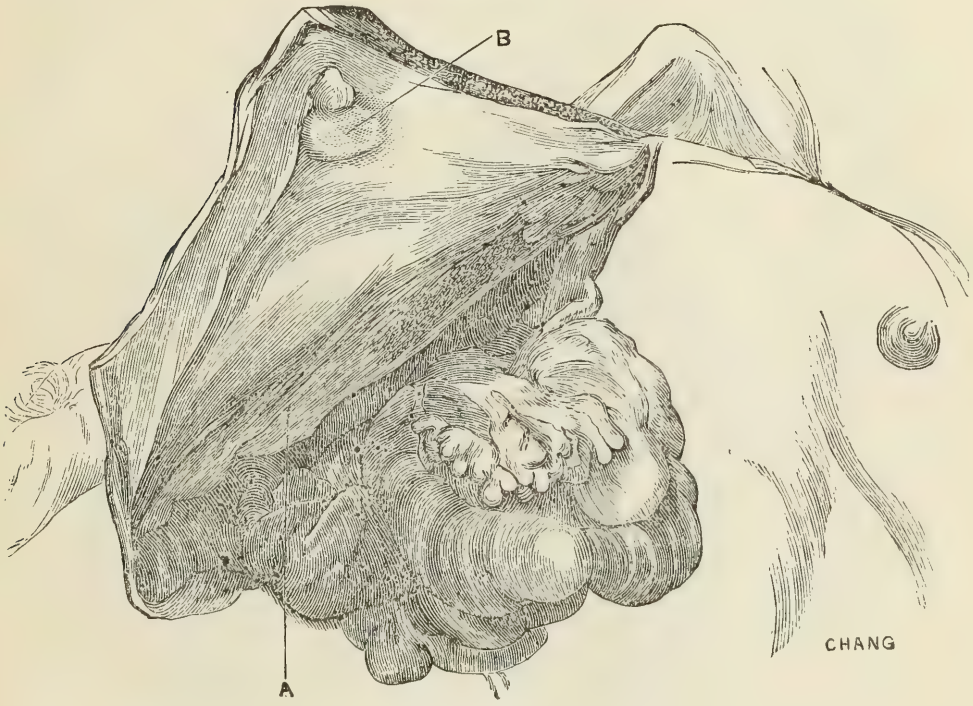


FIG. 5. The umbilical ligament in Chang.
A. The umbilical ligament.
B. The lobule of fat at position of the normal umbilicus.

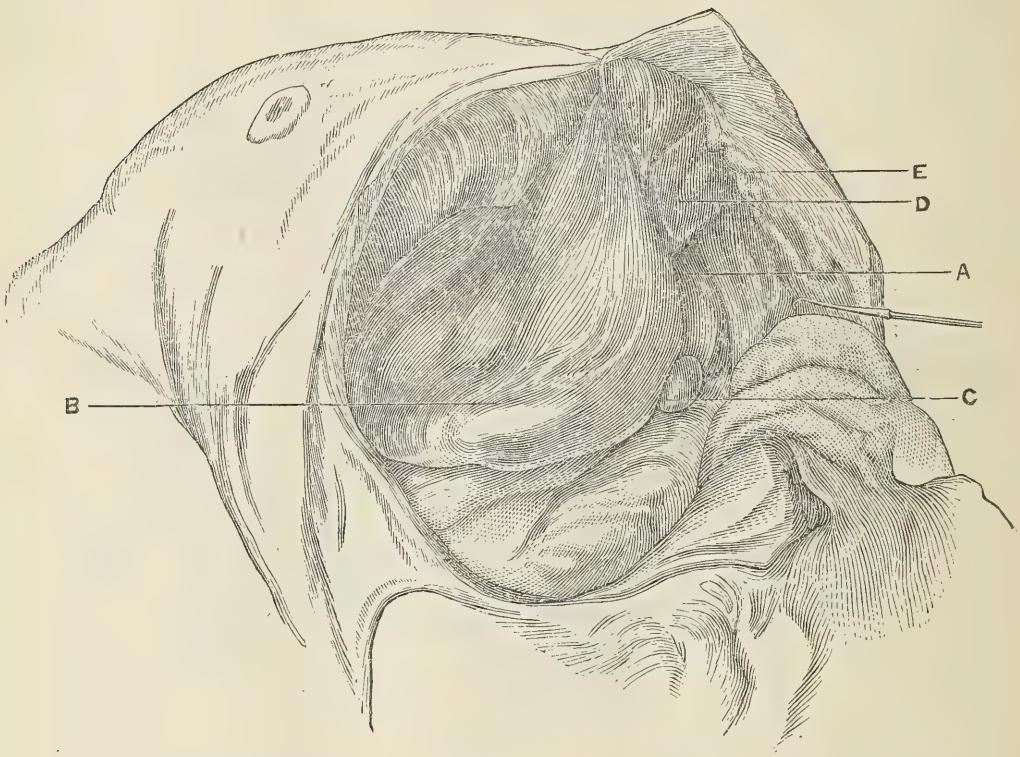
fat.* The transverse colon extended across the abdomen, beginning on the right side on a level with the eleventh rib. It was contracted and contained a little flatus. The rest of the exposed region was occupied by coils of small intestine, yielding a mesentery very rich in fat. The stomach was not visible. By removing the small intestine, and bringing down the transverse colon and large intestine, the pyloric extremity of the stomach was seen. The fundus of the stomach, spleen, and left kidney were not seen. (Fig. 6.)

The Liver.—The right lobe was alone visible. This ex-

* The presence of a great amount of adipose tissue throughout, in Eng, was very noticeable as contrasted with the emaciated appearance of the tissue in Chang.

tended entirely across the right hypochondriac and epigastric regions. Its external free border was not in contact with the

FIG. 6.



ENG.

FIG. 6. The abdominal organs in Eng—the small intestines removed.

A. Left lobe of liver.

B. Right lobe of liver.

C. Gall-bladder.

D. Suspensory ligament.

E. Lobules of fat in the position of the termination of the umbilical ligament.

ribs. Between it and the external abdominal wall there was an interval of nearly an inch at its greatest part, which was crossed by the external lateral ligament. The inferior border of the lobe rested upon and nearly concealed the pylorus of the stomach as well as upper half of right kidney. Corresponding in position to the upper portion of the right kidney was a well-defined layer of peritoneum, presenting a sharply defined internal border. Upon dissecting away the peritoneum from this border, it was found to answer to the inferior vena cava. The

lesser omentum occupied its usual position. The fundus of the gall-bladder was two-thirds of an inch beyond the anterior border of the lobe, immediately to the outer side of the caudal lobe. The position of the longitudinal fissure was well off to the left side of the abdomen, presenting, between the right and left lobes, a conspicuous cleft which was partially occupied by the base of the caudal lobe. The round ligament, with its

FIG. 7.

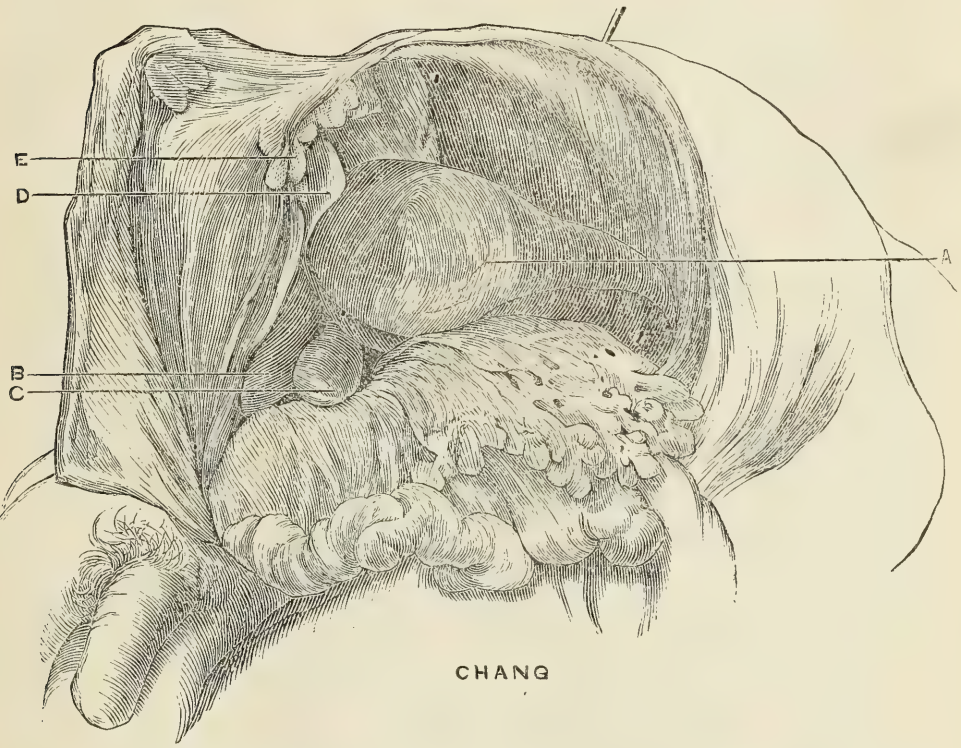


FIG. 7. The abdominal organs of Chang in position—the small intestines removed.

A. Left lobe of liver.

B. Right lobe of liver.

C. Gall-bladder.

D. Suspensory ligament.

E. Lobules of fat in the position of the termination of the umbilical ligament.

associated suspensory ligament, had doubtless passed nearly vertically, before the relation had been disturbed by the incision in the abdominal wall, upwards and forwards to the an-

terior abdominal wall at a point lying one inch to the outer side of the centre of the umbilicus.

In the subject, as it lay on the table with the flap *a, b* (Fig. 2), turned to the left, the suspensory ligament had the appearance of being much more obliquely inclined to the left, and could be made nearly horizontal by a little traction. Lying beneath this ligament, but belonging to the anterior abdominal wall, was a large mass of subperitoneal fat about the size of a pigeon's egg. Extending to the extreme left, and continuous with the anterior border of the left lobe of the liver, was a delicate prolongation of liver substance which was lost within the connecting band.

The upper surface of this prolongation was supported by a fold of peritoneum, extending directly upward, apparently attached to the base of the ensiform cartilage. Visible upon the anterior aspect of this fold was a tortuous artery, afterwards found to be the left internal mammary. This fold may be called *the accessory suspensory ligament;* nothing similar to it was seen in Chang. The left lobe of the liver, save a portion of its anterior edge, was not visible.

In Chang (Fig. 7), by exposing the parts as in Eng, throwing the abdominal flap, *c, d* (Fig. 2), to the right, there was at once brought into view the transverse colon, the greater omentum, and greater curvature of the stomach. The latter organ was large, empty, and without any undue traction could be so displayed as to yield its fundus and greater curvature in position. The fundus was not visible. Lying conspicuously within the left hypochondriac region was the spleen. Its inferior free border, with its peritoneal attachment, was distinctly seen; its upper portions, however, were invisible. The left lobe of the liver held a position answering to that of the right lobe in Eng—the external lateral ligament being stretched across the left hypochondriac region, pursuing a similar course to the external lateral ligament of Eng (*q. v.*). The left lobe at its outer portion rested upon the spleen, its inner portion upon the stomach. The outer portion of the left lobe presented a thin com-

pressed border, the inner portion was divided by a deep sulcus into two lobes.

The right lobe lay deep within the right hypochondriac region, the portion about the longitudinal fissure anteriorly, alone appearing in the dissection. The suspensory ligament held a position similar to that in Eng. The gall-bladder held its normal position to the right lobe, and was moderately distended with bile.

Both Chang and Eng had the organs occupying the hypochondriac and epigastric regions retaining, on the whole, such relations as are usually observed.

This statement appears pertinent, at this stage of the autopsy, in order to explain:

V. INTERIOR OF BAND.

We here describe (1) *the hepatic pouches;* (2) *the umbilical pouches;* (3) *the vascular structures of the band;* (4) *the diaphragms;* (5) *the ensiform cartilages.*

1. *The hepatic pouches.*—The photograph (Fig. 2) indicates the position of the right lobe of Eng's liver in the right hypochondriac region. The right lobe of Chang is, of course, not seen in the figure, since it lies on the side of the body which is not in the field of vision. It must follow from the rights and lefts of the two individuals being opposites that, in drawing a line between the livers (which, as already seen, occupy normal positions as to right and left) across the band, such a line will be diagonal to the axes of the ensiform cartilages; Chang's half of the band having the line enter the band from his "right," Eng from his "left." It will also follow that any pouches of peritoneum which might accompany this line will pursue a similar direction—be on the same plane—be right or left with respect to the axis of that plane. Now it was actually demonstrated that such a line did extend between the livers, and was accompanied by such peritoneal pouches. These pouches were termed the hepatic pouches, and may be described as follows:

Chang.—The subject lying on the table with rights and lefts determined as in the acquired position, the finger could be inserted behind the suspensory ligament (Fig. 7) in a pouch lying directly beneath the ensiform cartilages, into which passed an extension of liver-like tissue.

Eng.—This fact could not be well demonstrated in Eng in this position, but is well seen in Fig. 8.

It follows that the two hepatic pouches are on nearly the same plane, and that each approaches the central point of the band diagonally from the right side of the subject with whose abdominal cavity it is continuous.

2. *The umbilical pouches.*—Beneath the hepatic pouches, and between them and the inferior border of the band, were two pouches which, from their association with the round ligament, have been termed *the umbilical pouches.*

When the finger was passed toward the band from the abdomen of Chang, and following the peritoneum of the anterior wall of the addomen, it passed into a pouch of the band directly over the skin covering, across the band, over the umbilicus and was received within the folds of the suspensory ligament of the liver of Eng. This pouch was so superficial that while the finger was in the pouch any motion of the finger was readily followed by the observer.

In the same way as above, if the finger was introduced *behind* the suspensory ligament of Eng, it slipped into a pouch which passed across the median line of the band, and was received within the folds of the suspensory ligament of the liver of Chang.

There were then two pouches communicating with the two abdominal cavities, arranged one above another in the band, Chang's being the lower of the two. No remains of an umbilical vein were detected, nor was there any communication between the pouches and the umbilicus. It has already been noticed that the round ligament of each liver passed from the longitudinal fissures to a scar on the anterior wall of the abdomen near the band. It was not, therefore, within the round

ligaments, but the folds of the suspensory ligaments, that the pouches were found.

Eng's pouch measured two and one-half inches. From edge of Chang's suspensory ligament to end of hepatic pouch measured three inches.

Extending across the band, about midway between the prop-

FIG. 8.

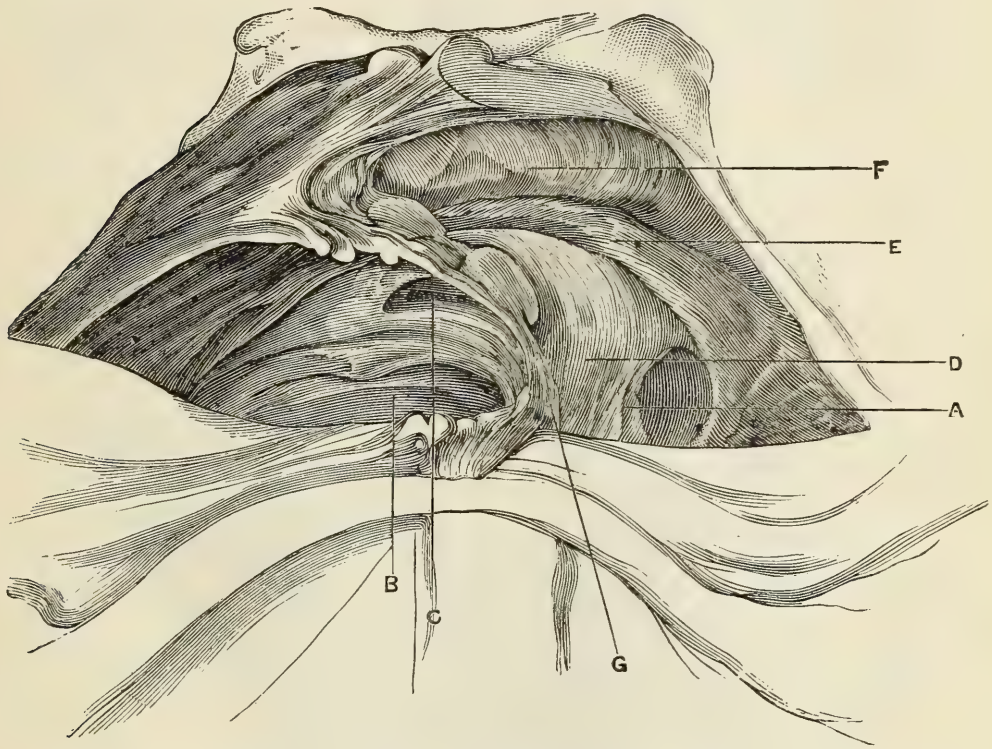


FIG. 8. The surface, C. R., E., L., showing the interior of band by free division of the aponeuroses seen in FIG. 7, and their underlying peritoneal attachments.

A. The orifice of umbilical pouch of Eng.

B. The orifice of umbilical pouch of Chang, showing connection with suspensory ligament of Eng.

C. The fenestrated umbilical pouch of Eng passing between the folds of the suspensory ligament of Chang.

D. Suspensory ligament of liver of Eng.

E. Hepatic tract.

F. Hepatic pouch of Eng.

G. The septum.

erties of the two indivduals, was a septum. It was attached above and below to the respective boundaries of the band, and

along its entire length was incorporated with its two peritoneal cavities, so that when in the course of the dissection of the "posterior" surface of the band the peritoneal covering of the band was displayed, several large lobules of fat were seen lying to Eng's side of the septum.*

It will be seen that Fig. 8 represents the band opened to display the pouches with the septum. The lower end of the septum is fixed near the scar of the umbilicus, and holds an immobile position over the umbilical pouches. At this point it is free from fat. But as it extends over the hepatic pouches,

FIG. 9.

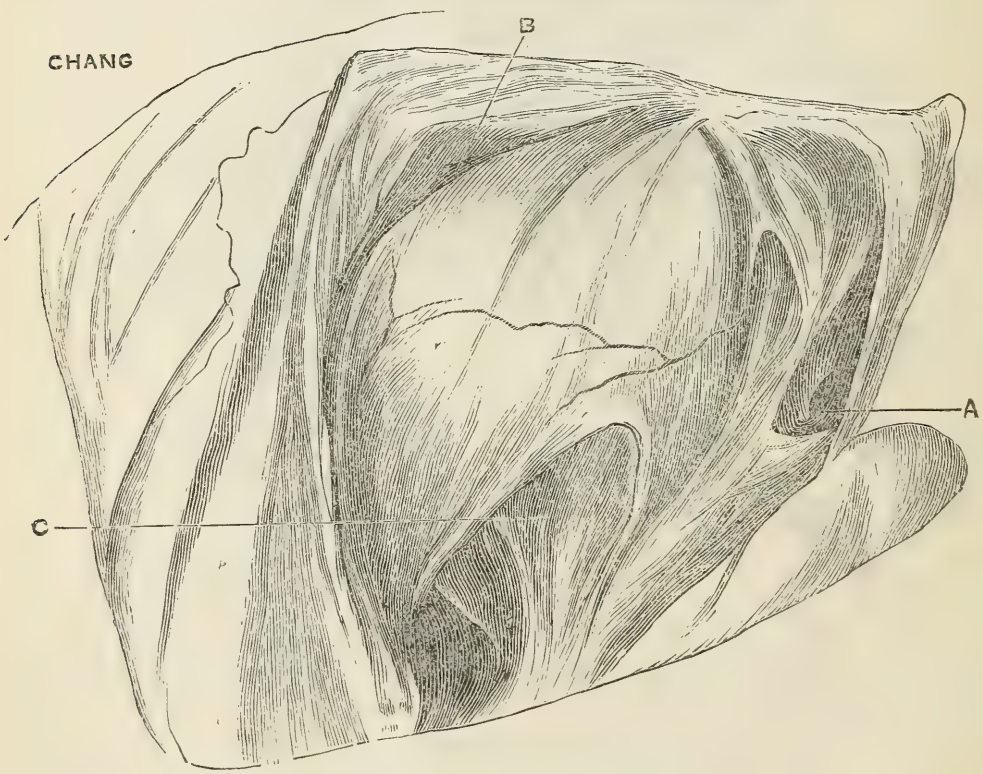


FIG. 9. The septum viewed from Chang's side.

A. The orifice of umbilical pouch of Chang.

B. The orifice of the hepatic pouch of Chang.

C. Suspensory ligament of Chang containing umbilical pouch of Eng.

* Before the septum was known to exist, the band was opened from behind in the presence of the Fellows of the College (February 18, 1874). The exact relations of the septum could not at that time be determined. Figs, 8. 9, and 10 are taken from studies of the parts made the day after the meeting.

it is more pliant. This portion of the septum has been carried a little to Chang's side of the band to display the entire length of the hepatic pouch of Eng.

Figs. 9 and 10 are designed to exhibit the appearances presented in securing views of the septum from its sides. Fig. 9 is the side toward Chang, and Fig. 10 is the side toward Eng.

The pouches and septum were now removed and the position of the hepatic tract determind. It rested upon the incurved borders of the ensiform cartilages (see Fig. 15), and as the sub-

FIG. 10.

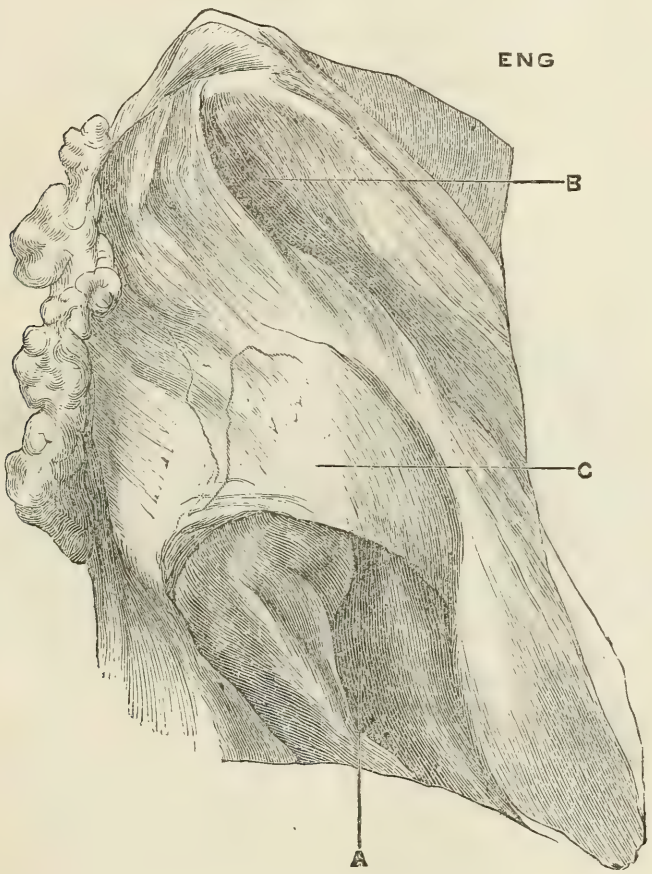


FIG. 10. The septum viewed from Eng's side.
A. The orifice of the umbilical pouch of Eng.
B. The orifice of the hepatic pouch of same.
C. Suspensory ligament of Eng, containing the umbilical pouch of Chang.

ject lay on the table with the "posterior" surfaces of the band exposed (Fig. 11) the hepatic tract was slightly arched. It

measured three inches in length, was compressed, and measured six lines wide and three lines thick. The tract arose from the livers at the same point—namely, directly above the longitudinal fissure, having more fullness on the side of the right than of the left lobe. The round ligament, as it passed out of the longitudinal fissure of each liver, was placed beneath and a little to the left of the tract.

3. *The vascular structures of the band* were as follows:

The livers being united, it was found that a colored injection thrown into the portal vein of Chang passed into the liver of Eng. A carful dissection of the bloodvessels (Fig. 11, c) proved it to be a terminal twig of the portal system of Chang. It was of the thickness of a No. 7 catheter, French scale, gradually diminished in size, and was lost toward the center of the band.

FIG. 11.

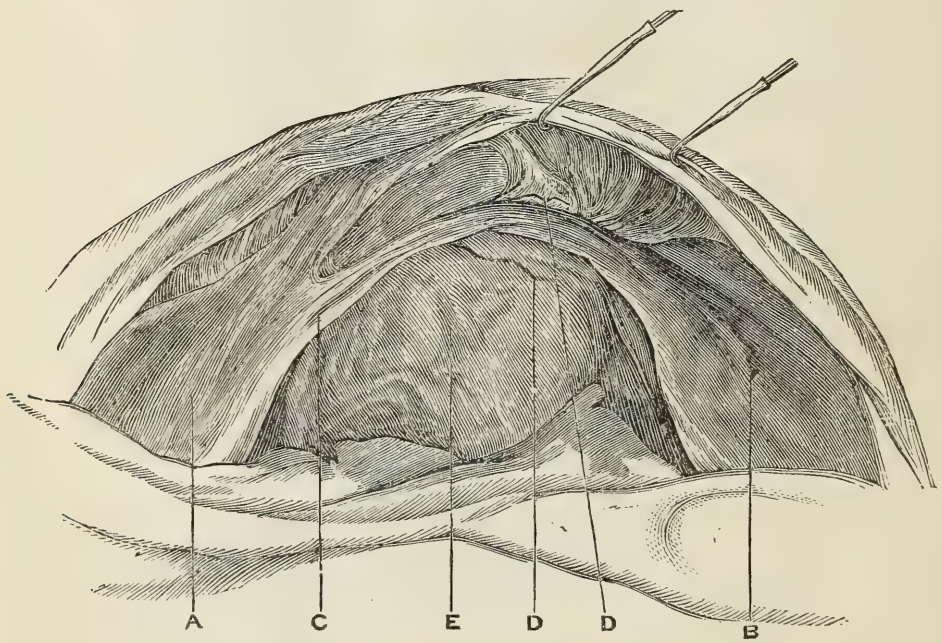


FIG. 11. The surface, C. R., E. L., with pouches removed to display the hepatic tract.

A. Liver of Chang.

B. Liver of Eng.

C. Portal vessels of Chang.

D, D. Minute branches of hepatic artery.

E. Subcutaneous fat of surface, E. R., C. L.

It did not pass as such across the band, but appeared to break up into minute branches before reaching the liver of Eng. At the same time there was undoubted distension of the portal capillaries with the colored fluid under the capsule of the dorsal surface of the right lobe of Eng's liver, one and one-half inches from the band. Examination of the branches of the mesenteric veins of Eng revealed the curious fact that some of them had received the injection. This had not been transmitted through the liver, for the portal vein at the transverse fissure was empty, but through a distinct extra-hepatic portal tract, which was found lying under the peritoneum beneath the position of the hepatic pouches, and in association with the umbilical pouches. This vessel began by relatively large radi-

FIG. 12.

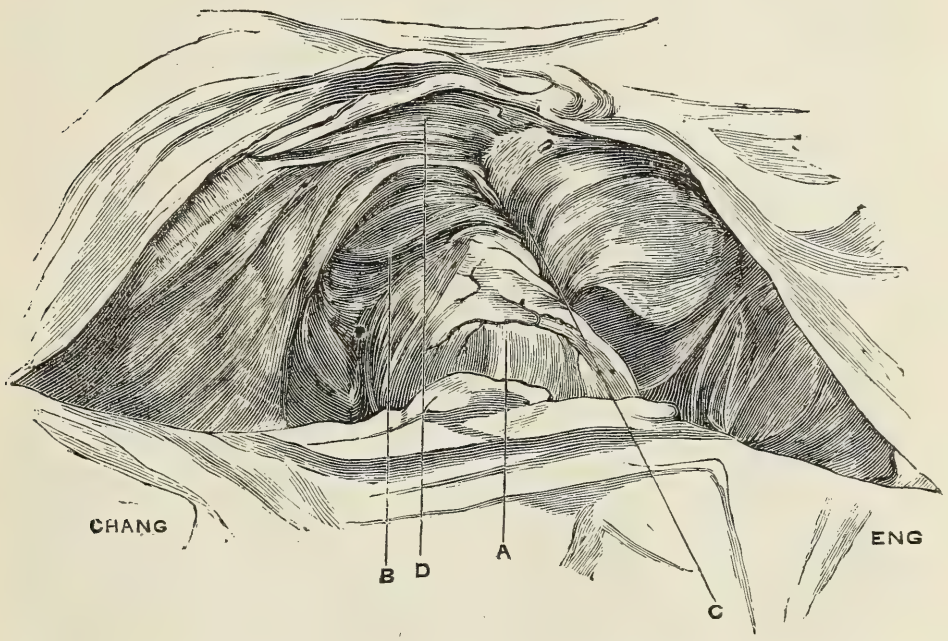


FIG. 12. The surface, C. R., E. L., with pouches, hepatic tract, and peritoneal attachments removed to display the diaphragms.

A. Subcutaneous fat of surface, E. R., C. L.

B, C. Symmetrical muscular fasciculi.

D. Fasciculi of Eng crossing the median line of the band.

cals towards Chang's side, became larger as these encroached on Eng's side, and was finally received within the portal system of Eng's body, as a tributary to its mesenteric vein.

No other vessels were met with in the band excepting a few insignificant branches of the hepatic artery, and the terminal twigs of the right internal mammary of Eng. The former vessels are marked D, D, Fig. 11. The latter vessel terminated by piercing the diaphragm, and giving ultimate filaments to the integument of the "front" of the band as shown in Fig. 12.

4. *The diaphragms.*—The subject being in the same position as in Fig. 2, the livers were removed, the peritoneal coverings dissected from the band, and the diaphragms exposed (Fig. 12). The point (A), marked by the terminal twigs of the right internal mammary of Eng, indicated the "anterior" of the band. A broad slip of fibres of Chang (B) was seen to pass across the median line, and to be inserted into the left border of the ensiform cartilage of Eng (Fig. 17). This arrangement would appear to correspond to the smaller collection of fibres (C) belonging entirely to Eng. A second arrangement of fibres

FIG. 13.

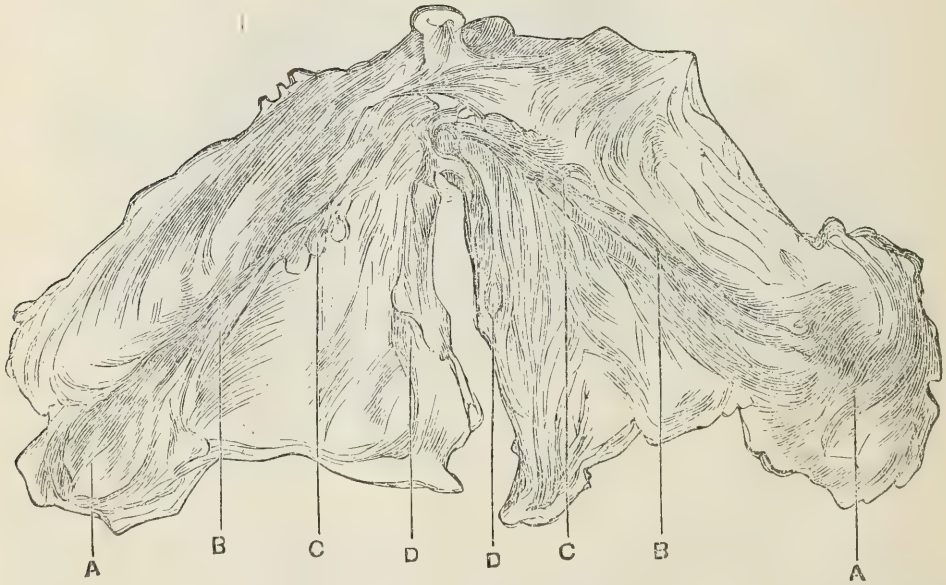


FIG. 13. The peritoneal linings of the anterior walls of both abdominal cavities.

A, A. The summits of the bladders.

B, B. The umbilical ligaments.

C, C. The nodules of fat at the parietal scar.

D, D. The isolated lobules of fat.

was seen above those just indicated, immediately under the cartilages (D). This appeared to arise from the border of the cordiform tendon of Eng by two distinct narrow slips, which crossed the median line to be inserted dispersedly on the diaphragm of Chang.

5. *The ensiform cartilages.*—After removing the diaphragms the cartilages were exposed. They may be described as follows:

Chang.—The cartilage measured two and one-half inches wide, and eight inches in length along its axis. The right border was very prominent, and projected half an inch beyond the limit of the corresponding border in Eng. It was almost in close contact with the cartilage of the eighth rib; it was very robust, with upper surface convex, under surface nearly plane. The left lateral border was two and one-half inches in length, right lateral border eleven lines in length. The former was marked by three tubercles of about equal size. One situated about one inch from the sternal origin; the other about two inches from the same point; the third at its extreme anterior border. None of these were robust, or presented any of the thickening noticed on the right side. The middle of these tubercles was on a line with that of the posterior tubercle. The junction of the ensiform process with the sternum was not marked by the eminence characterizing the similar point in Eng.

Eng.—The cartilage differed from that of Chang in being two and one-third inches wide, eleven lines in length of axis. The left lateral border was abruptly deflected downward, and did not present the transverse smooth projection noticed in Chang. This deflection was almost at right angles to the dorsal surface, acuminate inferiorly, and presenting a straight surface toward Chang, and an oblique one toward the ribs. The length of left lateral border, was one inch. The right lateral border, one and one-third inches in length, presented a smooth subrounded edge without tubercles, and terminated in a free rounded border on a plane a little above that of Chang. On the whole this border was more robust than that of Chang.

On the dorsal aspect of the process near its base was seen the rounded eminence described in the account of the external appearances (see page 575).

A comparison between the two ensiform cartilages shows that in Chang the anterior was longer than in the right in Eng. In other propositions Eng's was equal if not larger than Chang's, and was more robust.

FIG. 14.

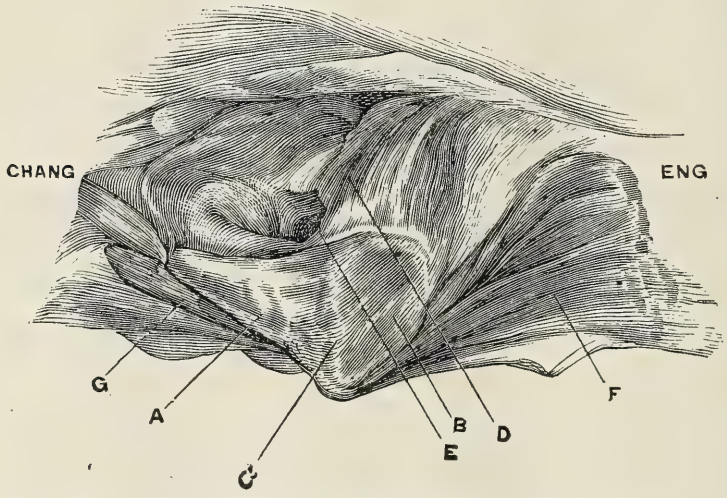


FIG. 14. A section of both ensiform cartilages, C. R., E. L.

A. Chang's cartilage.

B. Eng's cartilage.

C. The synchondrosis.

D. The bursa-like sac covering the same.

E. An opening into the sac.

F. Transversalis muscle of Eng.

G. Transversalis muscle of Chang.

The union between the cartilages was of the character of a symphysis. The union was very intimate along the border E. L., C. R., "posterior" (Fig. 14); the exposure of the junction by a delicate transverse cut showed a close union between the cartilages, thus constituting this part of the band a synchondrosis. That this, however, did not characterize the entire line of opposition was at once seen by turning to the border E. R., C. L. ("anterior"), where an interval, two lines in width, was seen between the cartilages, an interval which had been evidently susceptible of variation during life. This interval

extended across one-fourth the width of the band. The portion of the band between the parts as above indicated, was occupied by a bursa-like sac (Fig 14, D), which was opened by a minute orifice (E) to display its true nature. This sac was crossed above by a stout band of fibrous tissue (Fig. 15, A) an inch in width. Beneath, the sac was protected by a less well-defined band of the same width as the upper ligament, and which crossed between the two processes, to be lost in the perichondrium.

FIG. 15.

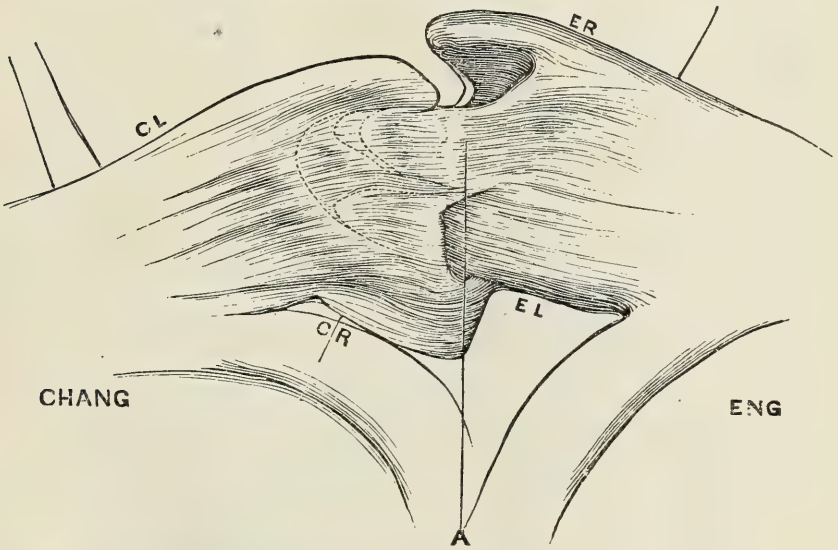


FIG. 15. Upper surface of ensiform cartilages.
A. The upper ligament uniting the cartilages.

Viewing the cartilages as the constituent parts of the band, we found the border C. L., E. R., the "anterior," to be longer than C. R., E. L., the "posterior." C. L., E. R, was a convex, nearly even border, C. L. being larger than E. R., with a gaping interval placed nearer Eng than Chang. C. R., E. L. was an irregular, uneven border, without interval, C. R. being smaller than E. L., and placed to the other side.

VI. OTHER STRUCTURES.

1. *The Spleens.*—This organ in Eng was five inches long, three and one-third inches wide. The dorsum was marked by a large sulcus, extending nearly across the organ, continu-

ous with the sulcus on the superior border. The hilus was

FIG. 16.

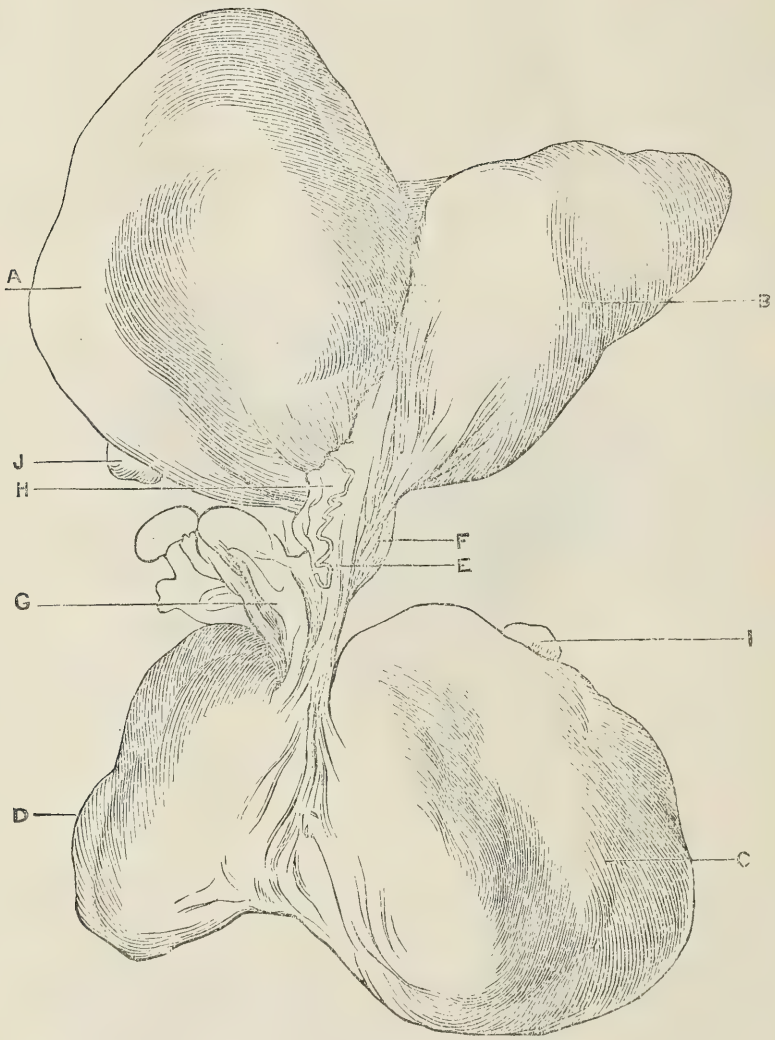


FIG. 16. The livers.

A. Right lobe of Eng.

B. Left lobe of same.

C. Right lobe of Chang.

D. Left lobe of same.

E. Hepatic tract.

F. Round ligament of Eng.

G. Round ligament in Chang.

H. Accessory suspensory ligament of Eng, with termination of the right mammary artery.

I. Fundus of gall-bladder of Chang.

J. Fundus of gall-bladder of Eng.

relatively shorter than that of Chang, beginning above, fully an inch below its upper border, and terminating within a half inch of its inferior border.

In Chang it measured five inches long, two and one-third inches wide. It was sub-elliptical in form, upper lip somewhat abruptly compressed. The lower border was obtuse and rounded. The dorsum was smooth, and presented at its posterior edge a single sulcus placed midway between the tip and

FIG. 17.

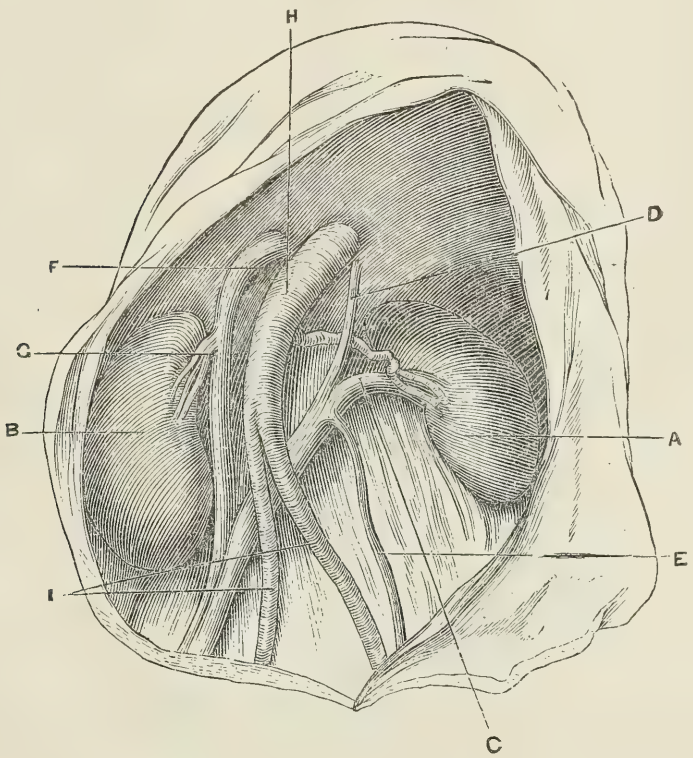


FIG. 17. Kidneys of Eng.

A. Left kidney.
B. Right kidney.
C. Left renal vein.
D. Left supra-renal vein.
E. Left spermatic vein.
F. Descending vena cava not distended with clot.
G. Right renal vein.
H. Aorta distended with plaster.
I. Primitive iliac arteries.

the inferior border. The hilus extended nearly the entire length of the under surface.

2. *The Livers* (Fig. 16).—In Eng the liver was nine inches broad. The right lobe was seven and one-half inches wide, antero-posteriorly. The fundus of the gall-bladder was seen on the anterior edge of the organ. The only noticeable feature on the under surface of the liver, was the lobus Spigelii. This was large, measuring two inches in transverse diameter, and two and one-third inches in antero-posterior diameter. It presented a somewhat increased breadth of neck, which was overlapped by an anterior prolongation of the lobe, and terminated by a rounded compressed extremity at the transverse fissure. The quadrilateral lobe was well developed, two inches in greatest diameter, ten lines wide.

In Chang the liver was eight and one-third inches broad. The right lobe was five inches wide, antero-posteriorly. The appearance of the gall-bladder corresponded to that seen in Eng. The under surface was normal. The lobus Spigelii presented a narrower neck than in Eng, the anterior prolongation being greater. The quadrilateral lobe was less developed than in Eng. Indeed, it was not raised above the under surface of the right lobe, and its limits were so imperfectly marked that it could not well be measured.

3. *The Kidneys.*—In Eng, the body lying on the table E. R., C. L., the left kidney (Fig. 17, A) was four inches long, one and a half inches wide at its hilus, and of the usual kidney shape. It lacked one-half inch of reaching the crest of the ilium. The renal vein (Fig. 17, C) of the same side measured three inches in length, and was decidedly oblique in position, its termination in the cava being below the level of the lower end of the kidney.

The right kidney (Fig. 17, B) corresponded in position to the left kidney of Chang, that is to say, it was in the shallower portion of the abdomen, and in contact with the abdominal wall. It measured four inches in length, and two and one-quarter inches in width. Its inferior border lacked two inches of reach-

ing the superior crest of the ilium. The renal vein ascended a little upward to enter the cava a little below the level of the upper end of the kidney.

In Chang, the body lying in such a way that the great trochanter of the right side rested on the table, the left trochanter being raised three inches from the same plane, an obliquity was given to the trunk, and rendered the position of the abdominal organs somewhat anomalous.

The left kidney (Fig. 18, A) lay with its lower half clearly within the iliac fossa, its inferior border answering to a point an inch and a half below the termination of the aorta. The

FIG. 18.

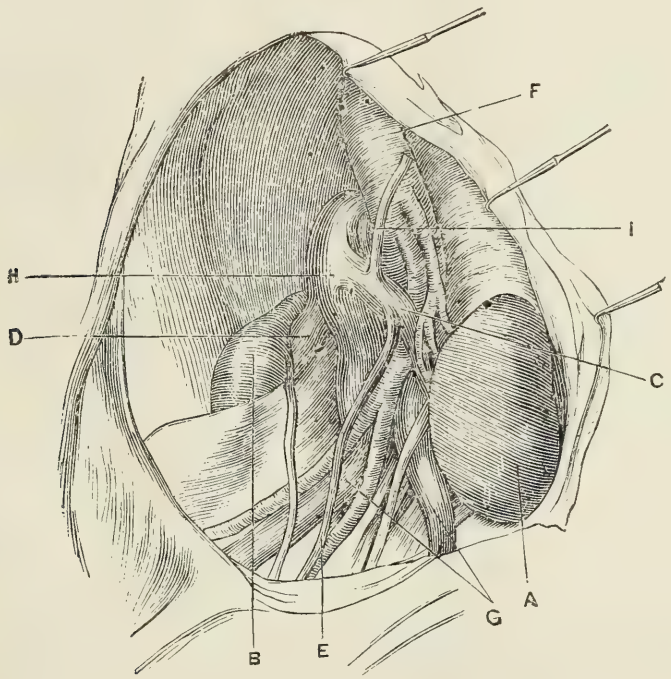


FIG. 18. Kidneys of Chang.
A. Left kidney.
B. Right kidney.
C. Left renal vein.
D. Right renal vein.
E. Left spermatic vein.
F. Aorta filled with plaster.
G. Primitive iliac veins.
H. Descending cava distended with clot.
I. Left supra-renal vein.

organ lay, at its inner and inferior portion, upon the left primitive iliac vein; it measured three and three-quarter inches in length, and two and seven-twelfth inches in width at its widest part. It was larger below, where it retained the usual appearance, but was somewhat abruptly pointed above, and was marked by the characteristic notch on its inner side. The renal vein (Fig. 18, C) was very obliquely situated, indeed was almost parallel with the cava, and was three and one-half inches long. The termination of the renal vein answered to a line running across the abdomen lying fully one inch above the upper end of the left kidney.

The right kidney (Fig. 18, B) was normally situated. It measured four inches in length, and one and one-half inches in width at its centre, and presented the usual reniform appearance. Its inferior edge just reached an eminence answering to the superior crest of the ilium.

4. *The Testicles.*—The right testicle of Eng was normal. The left testicle was not within the scrotum. Dissection from within the abdomen, showed that the organ had been retracted. It lay well concealed within the inguinal canal, slight traction making it appear within the abdomen.

The testicles of Chang were normal.

5. *The Hearts.*—The heart in Eng was situated nearer the median line than normal. The abdominal incision was very unfavorable for studying its exact position in the mediastinum. It was removed through an opening made in the diaphragm. The right side of the heart was occupied by a soft grumous clot much smaller than was found in the same locality in Chang, and which did not distend the cavities. The left side was normal. It was without clot so far as could be determined in the injected condition of the ventricle.

The heart of Chang presented a right auricle and ventricle distended with a dense venous clot; this extended from the right ventricle along the pulmonary arteries. The left side of the heart was empty.

The ductus arteriosus and foramen ovale were firmly closed in both hearts.

6. *The Vessels.*—The arteries of both subjects were, so far as examined, in an extremely atheromatous condition. Large plates of calcareous matter were deposited in the abdominal aortas. The injecting matter flowed insufficiently in the left lower extremity of Chang, from a clot plugging the femoral artery.

The venous system of Chang was engorged, giving the appearance of these vessels having been injected after death; that of Eng was comparatively empty.

7. *The Lungs.*—The lungs were so altered by post-mortem changes prior to embalming, their contraction by the chloride of zinc, and their increase of weight from the plaster, that no extended examination was made of them. But little difference was seen between the conditions of the lungs in the two men. No hepatization was present in Chang.

8. *The Vertebral Column and Ribs.*—There was marked lateral curvature of the vertebral column in both bodies. This was more conspicuous in Chang. The convexity of the curve was about half-way down the vertebral column, and inclined in Chang to the right side. The distance from the centre of the vertebral column to the left abdominal wall, two inches; to the right abdominal wall, five inches. The left side of the abdominal cavity, measuring from about the level of the band to the last rib of the right side, seven and one-half inches.

The ribs in both Chang and Eng were twenty-two in number, seven true and four false. On the right side of Eng the first, second, and third ribs were normal. The fourth, fifth, sixth, and seventh presented diminished intercostal spaces, owing probably to the extreme traction made on them by the deflection of the ensiform cartilages. The intercostal space between the third and fourth ribs was slightly contracted; that between the fourth and fifth ribs was very much contracted, the muscle being bulged inward. Between the fifth and sixth, and sixth and seventh ribs the space was less contracted. The

remaining intercostal spaces were about normal. The fifth rib near its articulation with the vertebral column formed a well-defined ridge within the thorax, carrying with it the sixth and seventh ribs, thus forming a rounded elevation, distinguishing the positions of these ribs from the thoracic wall above and below this point, where the parietal surface presented the usual concave appearance.

On the left side of Chang a similar arrangement of ribs and intercostal spaces were seen to the above.

The remaining organs were not examined.

Remarks.—With reference to the cause of death of the Siamese twins it may be briefly said that, in consequence of the restrictions by which we were bound, no examination of the brains was made. It can not, therefore, be proved that the cause of Chang's death was a cerebral clot, although such an opinion, from the suddenness of death, preceded as it was by hemiplegia and an immediate engorgement of the left lung, is tenable. Eng died, in all probability, in a state of syncope induced by fright—a view which the over-distended bladder and the retraction of the right testicle would appear to corroborate.

The existence of lateral curvature was not unsuspected. It was known to those who had examined the twins before death. Indeed, it must have been a necessity of the acquired position.

The presence of a pad of sub-peritoneal fat at the usual position of the umbilicus was certainly curious. It would appear to be an example of a localized nutritive change about the peritoneum, at the centre of the umbilical region, anticipating the exit of the vessels of the cord at that point. Familiar examples of this anticipation between structures developing from different layers of the embryo are seen in malformations of the genital organs, eye, ear, etc. In the above example it is remarkable only from the rarity of the conditions yielding it.

The circulation in each individual of the twins was practically complete, since the demonstration of continuity between the portal systems, although satisfied, invites the conclusion that

the amount of blood which passed from one to the other side of the band must have been, in the condition of the parts at the time of the demonstration, very inconsiderable, and was not competent in all probability to modify the performance of any act of the economy.

In the fœtal and early period of extra-uterine life the vessels must have been more capacious, and associated with a large tract of liver tissue. It follows, all things being equal, that an attempt at division of the band in early life would have been accompanied with more venous hæmorrhage than at any subsequent period.

In proof that the twins were the product of a single conception, the strict correspondence between the markings of the two spleens, as well as the number of the ribs, may be observed. The absence of available data bearing upon the question of symmetry between visceral organs of twins, prevents us from drawing here too positive an inference. It is probable, however, that the twins were individuals of a single organism, remarkable for its complete expression of duplex bilaterality.*

FIG. 19.

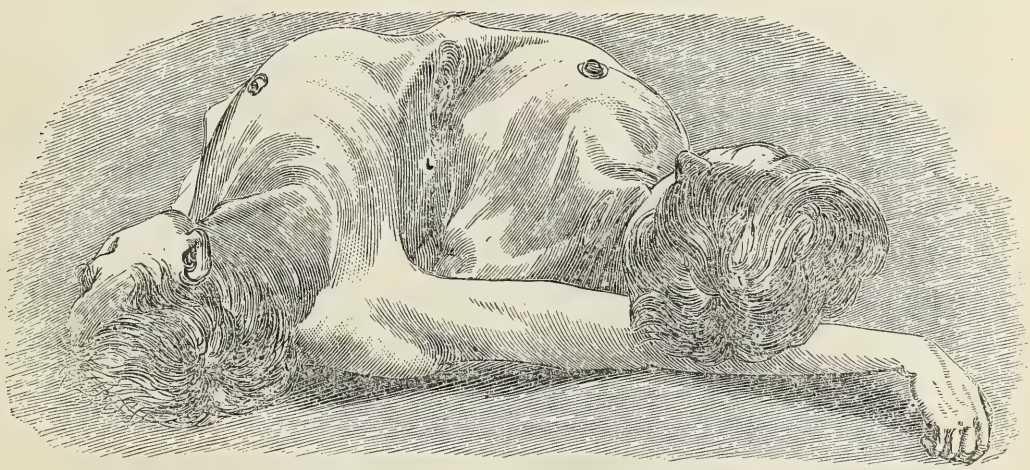


FIG. 19. Foreshortened view of the trunks, showing in the acquired position the band from above and the contours of its lateral surfaces.

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* I desire to return thanks to Dr. T. H. Andrews and Dr. J. W. White, Jr., for important assistance rendered in preparing the notes of the autopsy.

NOTE.—The editor is indebted to Professor Harrison Allen for the use of these excellent plates.—ED.

CLINICAL RECORDS.

"Ex principiis, nascitur probabilitas: ex factis, vero veritas."

ART. I.—ANOMALOUS PNEUMONIA. By WM. E. ADAMS, M. D., Greensboro, Ga.

Mrs. L. N. Lundy, aged sixty years, of feeble constitution, sent for me to see her on the 27th of April. Found her complaining of having had a chill, pulse 90, temperature 100½°, tongue heavily coated, eyes red, thirst great, bowels regular, with no pain or anything abnormal in her stools, skin slightly jaundiced. Prescribed calomel, grs. v., podophylin, gr. ½. Directed her to take one-half ounce of castor oil if the medicine did not act in eight hours; also left solution of quinine, five grains to the ounce, to be taken every two hours until the full effects were produced.

April 28.—Saw Mrs. L. at 3 P. M.; symptoms somewhat improved; pulse 90; temperature 100°; tongue red and large; headache; thirst not so great as on yesterday; appetite nil. Says she feels better. Continued the quinine solution. Ordered her to keep quiet.

April 30.—Saw Mrs. L. at 9 A. M. She complains of sharp pain in right infra-mammary region; pulse 100; temperature 102½°; skin hot and dry; respiration somewhat accelerated: inordinate thirst. These being new symptoms, with a decided crepitant râle distinctly audible, I concluded the complication to be acute lobar pneumonitis. Prescribed tartar emetic, gr. ¼; sweet spirits nitre, ℥j., every three hours, with Dover's powders, grs. x., every four hours to allay all restlessness and to produce sound sleep. It is proper to state that Dr. A. A. Jinnigan, of this county, saw my patient with me to-day.

May 2.—Did not see Mrs. L. on yesterday from Providential hindrance. Found her at 8 A. M. with pulse 102; skin hot and dry; temperature 104; bowels had acted once in twenty-four hours; appetite nil. Patient is very drowsy, with no disposition to talk; replies to questions very tardily. Continued same treatment, with Dover's powders only to allay rest-

lessness. Put her upon nutritious diet, and impressed her with the necessity of eating. Ordered, in connection with the above, that her feet be bathed in hot water, and a cloth saturated in turpentine be placed to her chest. As regards the pneumonia, the stage of solidification is clearly marked. My object is to tide her over with the above. It is worthy of remark in this case, that there is no expectoration, notwithstanding my patient has had a catarrhal affection of the throat, during the past winter, with profuse expectoration. All things considered, I am forced to the conclusion that my patient has typhoid pneumonia, or typhoid fever with the pneumonia as a complication.

May 3.—Saw Mrs. L. at 4 o'clock P. M. Symptoms about as last night, except a roseolar eruption about the hands, arms, and breast, tongue very large and red, pulse 100, temperature not noted; no appetite; no thirst. The pneumonia is progressing as I could wish toward resolution, changed my prescription from one-quarter to one-twentieth of a grain of tartar emetic. Ordered five gtts. spirits of turpentine three times a day, with liberal allowance of whiskey-toddy. I consider the case as critical.

May 5.—Saw Mrs. L. at 5 P. M. Symptoms decidedly worse than when I saw her last; pulse 120; temperature 104; end and edges of tongue very red, top and middle heavily coated; bowels hard and distended, but no tenderness; had acted once in the past twelve hours. Acting on the principle that typhoid fever is caused from a super-alkalinity of the blood, I discontinued the tartar emetic and nitre treatment (for there was no inconvenience from the pneumonia now), and ordered diluted sulphuric acid, gtts. 8, every six hours; continued the turpentine, gtts. 5, three times a day to combat the tympanitic distension of the bowels. Enjoined perfect quiet, nutritous alimentation, alcohol included, and the patient's bed to be frequently shifted. Patient's strength fast failing, but not to any alarming degree. The only hope is to support amply the powers of life.

PROCEEDINGS OF SOCIETIES.

"Etsi non prosunt singula, juncta juvant."

The Central Kentucky Medical Association.

The Association met at Stanford, Ky., on October 20, 1875, in the Grangers' Hall, at 10 o'clock A. M., the President, Dr. R. W. Dunlap, of Danville, in the chair. Present, Drs. Reid Alcorn, Lewis, John L. Price, Shannon, McKee, Harlan, McMurtry, Logan, Craig, Bailey, Carpenter, A. D. Price, H. Brown, Cowan, Meyer, Nelson, S. L. S. Smith, U. S. A.; Huffman, Burdett, C. T. Spilman, Bronaugh, Taller, McRoberts, and Erwin.

After a prayer by Rev. S. S. McRoberts, the debate was opened by Dr. Huffman, the appointee, with a paper on "Headaches, their Causes and Treatment," the question for the day. Excluding organic headaches, those in which the head itself is the seat of actual disease, he considered "only those which owe their origin to sympathetic causes," late hours, dissipation, want of proper food, imprudences of all kinds, sedentary habits, etc. Persons of full habit and sedentary occupation are liable to headaches of two kinds, plethoric and congestive. After giving the diagnostic differences between them, the treatment of the former consisted principally in dispensing with drugs as much as possible; proper diet, regular exercise, etc., with cupping and leeching the head when the pain is severe. A similar plan of treatment is pursued in congestive headache, with the addition of wine and tonics. In headaches due to derangement of the digestive organs, the stomach must first be restored to a healthy tone, and appropriate remedies addressed to the special cause. In the treatment of sick and nervous headache, upon which he dwelt at length, he relied mainly on bromide of potash, morphia, electricity, and guarana. Gouty and rheumatic headaches are to be treated with reference to the predisposing causes. In bilious headache, the stomach and bowels must be unloaded, with suitable food and exercise afterwards.

The headaches of old age should be watched closely, as they were generally indications of serious danger.

The discussion following the paper was chiefly taken up in considering headaches as symptoms of disease. Dr. Harlan spoke of atmospheric changes as causes of headaches, and of the difficulty in discriminating accurately between plethoric and congestive headache, and Dr. Craig regretted that nothing had been said by Dr. Huffman of the pathology of so important a subject, and little or nothing as to the means best adapted for giving permanent relief. Dr. Meyer attributed the most frequent causes of headaches to the over-indulgence in the pleasures of the table, the use of tobacco, and above all, of coffee, the latter of which, he declared, had been productive of great injury to mankind. A return to a simpler mode of living would banish headaches almost entirely. Drs. Bennett, Smith, and Carpenter differed widely from Dr. Meyer as to the injurious action of coffee, asserting that it often acted remedially in certain forms of headaches. Dr. Logan ascribed many of the headaches to catarrhal diseases of the throat and ear, of which he gave some particulars.

Dr. P. W. Logan, of Stanford, Chairman of the Section on Progress of Gynæology, Midwifery, and Diseases of Children, failed to make a report, owing to continued ill health, and the Committee was discharged.

Dr. Harlan, of Danville, read a report of a case of "Suppurative Mastitis," illustrating the local anæsthetic effect of carbolic acid. The patient, aged thirty-three, mother of four children, had milk abscesses after the second and third confinements. On the fourth day after her last confinement, which occurred on the 25th of last August, the breast began to be painful, and notwithstanding all his efforts, finally developed into suppurative mastitis, accompanied by great pain and tenderness. This result, however, was hastened, if not entirely brought about, by the surreptitious application to the affected breast of a salve, by the patient, which had been furnished her by a friend. On the 11th of the present month fluctuation could be felt, and the

necessity for evacuation was apparent. The patient having suffered acutely from the opening of similar abscesses after her other confinements, was filled with dread, and made plaintive appeals to be spared a repetition of the pain. About this time the October (1875) number of the "Richmond and Louisville Medical Journal" appeared, containing an article by Dr. William H. Doughty, of Augusta, Ga., on "Carbolic Acid, its Caustic and Anæsthetic Effects," and he determined to give the acid a trial. A solution of pure carbolic acid (one part to twenty of water) was prepared and spread over the entire surface of the breast, and a second cloth saturated with the solution was placed over the seat of fluctuation. Awaiting its action, thirty minutes, sensibility was tested by pricking the part with a common needle, which was scarcely felt; he waited ten minutes longer, when a bistoury was slowly introduced into the sac of the abscess, thoroughly evacuating its contents, and the operation elicted no pain whatever.

Dr. Carpenter, of Crab Orchard, reported a case of "Tubercular Meningitis," still under treatment.

Dr. Bailey, of Stanford, read a report of a case of "Chorea Minor," treated by ether spray to the spinal column. The patient was a farmer's son, about fourteen years old. It was a mild case, and chiefly characterized by irregular clonic movements of the involuntary muscles, and by weakness, slightly approaching to paralysis in the same parts. He was never stout; had several convulsions when cutting his first teeth, had had frequent attacks of quinzy, and two and a half years ago had acute rheumatism, complicated with purpura hæmorrhagica, a report of which was read by Dr. Bailey at the meeting of the Association in January 1874. He was first seen on the 20th of last April, the chorea came on about four days before, the right arm was continually jerking about, and in walking the right leg both dragged and jerked; though right-handed, the left was used in feeding, the right hand being useless for that purpose, and the grasp of the right hand was much feebler than that of the left; the speech was thick, and the tongue unsteady

when protruded, the features would twist and twitch, but the contortions ceased during sleep; heart appeared normal, but contracted irregularly; digestion feeble, and he was anæmic; complained of disturbed sleep and nervousness; urine passed in the morning neutral. The disease remained unilateral, and the sphincters continued unaffected. The case was reported partly to consider the means employed for relief, and especially the connection, if there be any, between chorea and rheumatism. Of the pathology and causes of chorea, he said little is known. The theory of its rheumatic origin came into vogue mainly through the teachings of Trousseau, who found it most frequently associated with the rheumatic diathesis, especially when this had produced heart disease; and he believed the chorea was due in many instances to embolism of arteries of the brain. Sée also lays great stress upon the connection between these diseases, noticed by himself. Dr. West having had his doubts dispelled, now believes that the rheumatic diathesis is a powerful predisposing cause of chorea. M. Roget says the coïncidence of chorea and rheumatism is so frequent that it should be regarded as a pathological law, just as much as the coïncidence of heart disease and rheumatism; that a child affected with rheumatism is, after a longer or shorter interval, threatened with chorea, and the child affected with chorea may, sooner or later, become rheumatic. Dr. Tuckwell attempts to explain why in adults chorea and rheumatism do not go together, as they do in earlier life; that in earlier life rheumatism is far more frequently complicated with heart disease. Dr. Jacobi ascribes the greater frequency of heart disease in the very young to the greater physiological activity of the organ. Notwithstanding this fact, the disease ends fatally less frequently in children than in adults. The younger the patient, says Dr. Hilliet, the more frequently is rheumatism accompanied with endocarditis. Dr. Hammond, of New York, denies that there is any connection between chorea and rheumatism, and declares his disbelief in Trousseau's embolic theory. He says there are none of the symptoms of embolism present in chorea. This patient had

acute rheumatism two and a half years ago, when his heart was the seat of pathological changes; not serious, however, since they passed off, as Jacobi says they often do. Now he is attending school, and in comparative health. Can I say, he asks, that acute rheumatism in his case was the cause of the endocarditis, which is seldom absent in acute rheumatism of the young, or that the endocarditis or polyarthritis was the cause of the chorea? The connection between the two affections seems to be a loose one, for although chorea may follow acute rheumatism, the frequency of the occurrence has been over-estimated, according to Vogel. In cities and countries where much rheumatism occurs, chorea ought to abound, and vice versa, but it is not so. Moreover, if there were any actual connection between them, more girls than boys ought to suffer from rheumatism, for it is well known that the former are predominantly subject to chorea. Just the reverse happens to be the case in rheumatism, which notoriously attacks more boys than girls. This lad had unilateral chorea minor, and this is not to be classed with what is known as fatal chorea, about which Dr. Ogle, of London, has written a monograph, a disease which often destroys life, and where in post-mortem examinations the lesion is found in the corpus striatum. In ordinary chorea relief is almost always obtained, either temporary or permanent, which would indicate that the anatomical changes, whether it be in the organ of the will or in the centre of coördination, or in some other part of the nervous centre, certainly can not be very great.

After mentioning the various drugs which have more or less repute for controlling choreic movements, he determined to treat his patient after the plan recommended by Professor Hammond; that of sulphate of strychnia, internally, and the local application of ether spray to the spinal column. The strychnia was given at first in one-sixtieth of a grain-dose, three times a day, gradually increased to one-twentieth of a grain. The ether was applied by an atomizer for about five minutes for fourteen days successively, when the cure was complete. After

alluding to the well-known efficacy of the shower-bath and cold douche in the treatment of chorea, the physiological action of which he presumed was partly at least similar to that of the ether spray, he said a vast number of cases of acute chorea get well under almost any plan of treatment, and doubtless his patient would have recovered under proper hygienic surroundings, if let alone; yet he believed the affection was greatly influenced by suitable medication.

Dr. Alcorn, of Hustonville, read a report of two cases of "Puerperal Convulsions," with recovery. In one case the only remedy used was chloroform, the patient having been kept anæsthetized for an hour and a half. In the other case, having neither chloroform nor instruments, he resorted to venæsection, abstracting about thirty ounces of blood; the child was soon after delivered dead, with the assistance of Dr. H. Brown, who had arrived in the meantime. The convulsions, however, continued for twenty-four hours after delivery, every twenty minutes. During this time she was in a profound coma, pulse 100, temperature 100°, with paralysis of the left arm and leg. Some twelve hours after, she began to show signs of returning consciousness, and on the next day was able to take food. A tedious convalescence followed before recovery was complete. Little or no medication was used.

Dr. Craig, of Stanford, presented a paper on "Bloodletting in the Treatment of Hysterical Convulsions," with a report of two cases. Both cases were treated satisfactorily by venæsection, after other remedies had failed; and the main object of the paper was to present the claims of bloodletting for the relief of this and other ailments, the use of which had been too long ignored.

Dr. P. W. Logan, of Stanford, reported a case of ethmoidal catarrh occurring in an adult male. The case being still under treatment, further mention of it is deferred.

Dr. McKee, of Danville, read a paper on the "Prevalence of Fevers during the last Three Months," in the four counties represented in this Association; after referring to the unusual

amount of malarial fever prevalent in the above-specified region, quotidian, tertian, and quartan intermittents, the causes of which he attributed to the excessive rains during the earlier summer months, superabundant vegetation, etc. There is a mixed form of fever, denominated "typho-malarial fever," prevailing also, which he desired principally to call attention to. It is more difficult to manage, and attended, perhaps, with more danger to life than typhoid fever uncomplicated. Typho-malarial fever runs the same extended course as the latter, continuing sometimes from thirty to forty days, and has the characteristic eruption and diarrhœa. Beginning with all the symptoms of remittent fever, followed by high febrile excitement, the temperature ranging from 104° to 106°. The fever then subsides, with a cold stage more or less pronounced, then fever again, until after three or four days diarrhœa comes on; and if the patient be examined now, the characteristic eruption of typhoid fever will be found on the abdomen, chest, or arm, or probably on all. Indeed, the symptoms of typhoid fever are complete. On the other hand, the evidences of malaria are no less convincing; the diurnal or tertian remission, followed by fever, and later by perspiration and the high range of temperature, rising as high as 106°, whereas in simple typhoid fever the range is from 100° to 105°, rarely reaching the latter point during the first week. Sixteen cases of typho-malarial fever have been under his charge during the last two months, the treatment of which was generally that usually employed in typhoid fever, with the exception of the free use of quinine, which was given not only as an anti-periodic, but also for its antipyretic effect. When given in large doses, it will reduce the temperature two to four degrees, and the pulse proportionately, as was seen in each of these cases. As the danger to life is in proportion, as a rule, to the high range of temperature, any remedy that will reduce the temperature, even temporarily, will be of value. After remarking upon the extraordinary success of the present German method of treating typhoid fever, particularly, as well as other fevers, by quinine, cold baths, dig-

italis, etc., the indications pointed unmistakably to a change from the old or expectant plan of treatment in this class of diseases to a more active one.

Dr. Craig had seen a number of cases of mild malarial fever of a remittent type, and also some like those described by Dr. McKee. He mentioned having had some cases of typhoid fever on the highest, and seemingly one of the healthiest, localities in his county.

Dr. S. L. S. Smith had a number of cases similar to those reported by Dr. McKee, during the latter part of the past summer, the most of which, however, recovered. In some of the cases he had tried eucalyptus, with indifferent success.

Dr. McMurtry, of Danville, confirmed Dr. McKee's statement as to the unusual amount of malaria prevalent during the last few months. So far as his observation went, all diseases seemed to be more or less complicated with it. The expectant plan of treatment in typhoid fever would, he believed, eventually give place to a more active course of medication. He had on more than one occasion observed the antipyretic action of quinine in doses of thirty grains. Hypodermically, the action of quinine had been more prompt, as well as painless, and followed by no abscesses.

Some further remarks were added by Drs. Harlan and Huffman confirmatory of the unusual prevalence of malarious diseases, as stated above.

Dr. Logan exhibited a collection of the various instruments used by Dr. Rumbold, of St. Louis, in the treatment of diseases of the throat, ear, and nasal passages, at the same time explaining the manner of using them.

Dr. Nelson, of Danville, presented an improved ether-inhaler, Thomas' Medical Dictionary, report on hygiene in the U. S. Army, and vital statistics, the latter being part iii. of the Statistical Atlas of the United States.

Dr. McMurtry exhibited "Cholera Epidemic of 1873 in the United States," stating that it gave him great pleasure to introduce this work, which is a very valuable contribution to the

literature of cholera, to the notice of the members, as the author, Dr. Ely McClellan, U. S. A., is a member of this Association.

Dr. S. L. S. Smith presented Paget's Clinical Lectures, and Dr. Harlan, Wright on Headaches.

Dr. McMurtry, of Danville, exhibited a set of large and splendid drawings (some seventy-five in number, like those exhibited by him at a former meeting, beautifully executed in colors, the work of Dr. Lonchon), illustrating parturition in all its stages; the presentations in natural and difficult labor; the manner of applying forceps, etc., etc.; at the same time giving an excellent demonstration of the usual steps in the process. It was through the kindness of his friend, Dr. Lonchon, of New Orleans, that he was able to illustrate the subject, and thus conclude the series which it had been his pleasure to begin several meetings since.

At the conclusion of the demonstration, which occupied nearly an hour, the thanks of the Association were unanimously voted Dr. McMurtry, in which Drs. Nelson and Logan were afterwards included for the exhibitions offered by them.

Dr. McKee, Chairman of the Board of Censors, read the following report, which was adopted by a unanimous vote: The attention of the Board of Censors having been called to a recent publication in the "Louisville Courier-Journal," and reprinted in the "Danville (Ky.) Advocate," by Dr. James G. Carpenter, of Crab Orchard, a member of this Association, and having had Dr. Carpenter before them, and heard his statement in regard to said publication, and his disavowal of any intention to disregard the rules of this Association in such matters, would respectfully report: "That they are satisfied no wrong was intended by Dr. Carpenter, and that his explanation be received by this Association as ample and satisfactory."

The committees appointed to solicit contributions for the McDowell Monumental Fund, made encouraging reports. In this connection, Dr. McMurtry said Dr. James H. Letcher, Secretary of the McDowell Medical Society, at Henderson, Ky.,

in a recent communication to him, had spoken favorably of the progress of the fund in his section.

After a vote of thanks to the members from Lincoln county for hospitalities, and to the Grangers for the use of their Hall, the Association adjourned, to meet at Danville on the third Wednesday in January next, the debate to be opened by Dr. F. S. McMurtry, of Danville, on Stricture of the Urethra.

GEO. T. ERWIN, Permanent Secretary.

TRANSYLVANIA MEDICAL ASSOCIATION.

Pursuant to an invitation, extended by the Shelby County Medical Association, held at Shelbyville, Ky., November 3, 1875, the following physicians from this and adjoining counties met in Odd Fellows' Hall, for the purpose of organizing a District Medical Association—viz.: Drs. U. V. Williams, W. B. Rodman, B. F. Duvall, O. D. Todd, E. C. Bright, S. P. Bryon, J. H. Spear, E. Williams, C. T. Keeney, O. H. Witherspoon, L. Crossfield, J. W. Gilbert, J. W. Spear, R. I. McQuiddy, J. Baker, James Lowry, N. F. Nash, John Harwood, W. E. Ryon, H. B. Bishop, J. S. Ford, E. T. Rinehart, W. E. Shepherd, J. K. McCreary, D. S. Slaughter, R. F. Logan.

Dr. O. D. Todd reported the name of Dr. D. N. Porter, of Eminence, and his name was added to the list of members.

Dr. J. Baker then stated the object of the meeting, and moved that Dr. U. V. Williams, of Franklin county, act as temporary chairman; carried. Dr. R. F. Logan was elected temporary secretary.

A motion was made and carried that this Body adopt the constitution and by-laws of the Shelby County Medical Association, until a permanent organization was effected.

On motion, a Committee on Credentials was appointed—viz., Drs. Todd, Duvall, Bishop, Spear, and McQuiddy.

A motion was made and carried that a Committee on Permanent Organization be appointed. The President appointed Drs. J. Baker, S. P. Bryon, E. Williams, O. H. Witherspoon, and W. B. Rodman.

A recess of half an hour was then taken.

After recess, the Committee on Credentials reported the names of all present as suitable persons to join the Association.

The Committee on Permanent Organization made the following report: The name of this organization to be the Northern Central Kentucky Medical Association. For permanent officers—President, Dr. U. V. Williams, of Franklin; Vice-President, Dr. S. P. Bryon, of Oldham; Secretary, Dr. R. F. Logan, of Shelbyville; Treasurer, Dr. J. S. Ford, of Shelbyville.

A motion was made to adopt the report of the committee.

A motion to amend the report of the committee by substituting Transylvania Medical Association for Northern Central Medical Association; amendment carried.

The report of the committee as amended was then adopted. The committee was continued until next meeting, and was instructed to frame and present a constitution and by-laws for the government of the Association. In the meantime their recommendation to adopt the constitution and by-laws of the Shelby County Medical Association was approved, and the President declared that we would be governed by this organic law until a new one was reported by the committee.

The subject for discussion was then called, and a request made that Dr. Rodman, of Frankfort, open the discussion by reading his paper on Puerperal Fever.

ABSTRACT OF DR. RODMAN'S PAPER.

More has been written, to less purpose, upon the subject of puerperal fever than any other disease. There has been more antagonism in regard to the nature and etiology of this disease than in regard to the symptoms, treatment, and pathology, though the latter has been the subject of much discussion and difference of opinion.

Puerperal fever has been defined to be "a contined fever, communicable by contagion, occurring in connection with childbirth, and often associated with extensive local lesions, especially of the uterine system." All infectious diseases should be

classified with due regard to their etiology. A classification according to symptoms and pathology brings endless confusion. "The cause the same, the nature of the disease the cause," is an axiom worthy of adoption in the discussion of specific diseases. There is really no such disease *sui generis* as puerperal fever. Under this title many distinct diseases have been described. The name, therefore, is unfortunate. "The nature of puerperal fever can never be properly understood until the causes are defined." What are these causes? Facts, which seem to me indisputable, have been observed by many able physicians, which show that some of the most violent attacks of puerperal fever have been due to contact with cases of scarlet fever. Dr. Braxton Hicks mentions thirty-seven cases which were clearly traced to this cause. Trousseau also records an instance in which an epidemic of puerperal fever was produced by an outbreak of scarlatina.

Again, puerperal fever is often produced by erysipelas. I cite a few instances coming under my own observation. Dr. ——— attended a case of facial erysipelas in Frankfort, Ky., from the 9th to the 22d of December, 1874. During this time (December 14th) he delivered Mrs. P. of a child at full term. On the 15th she had a low form of fever (puerperal?) with some peritonitis, and died on the 17th. On January 13, 1875, he delivered Sallie W. (colored). On the 15th she had the same fever with similar symptoms, and died on the 16th. January 14th he examined the womb of a non-puerperal woman, Mrs. W. He found it prolapsed with two recent abrasions on the os. On the 15th she had fever with symptoms resembling those of the two puerperal women, and died on the 17th. January 10th, Dr. ——— examined the womb of Louisa (colored). On her uterus there were abrasions. She had the same fever, beginning on the 13th, and died on the 17th. No other physician in Frankfort or vicinity had any cases of this kind. I saw, in consultation, one of these cases. There was no appearance externally of erysipelas, but I firmly believe these women died of that disease.

It has been said, that it is to country doctors, or those practicing in smaller towns and villages, that we must look for *facts* which will enable us to arrive at a proper understanding of the nature of the causes of puerperal fever. This is true, for obvious reasons. It is next to impossible for those living in large cities or attending hospitals to exclude various factors which abound under such circumstances. A practitioner in a city must nearly always be in doubt as to the cause of the cases of puerperal fever which he meets with. Not so with country physicians. The cause is here narrowed within certain limits, and is more easily and certainly ascertained. For these reasons such facts as we observe and record are highly valuable. In the cases I mention, all causes except erysipelas, can be excluded. Trousseau mentions the fact that during an epidemic of puerperal fever in the Hotel Dieu, most of the children born of the puerperal women died of malignant erysipelas.

Dr. Perry, of Philadelphia, has shown that diphtheria may be a fruitful cause of puerperal fever. Professor Martin, of Berlin, believes that all cases of this disease are diphtheritic in their nature.

Other diseases of an infectious nature may cause puerperal fever, but it is unnecessary to produce facts to prove it.

Septicæmia and pyæmia also have their importance in the causation of puerperal fever. Many distinguished physicians in Great Britain—as Spencer Wells, Leishmann, Barnes, Graily Hewitt, and the great mass of the Profession in Germany—believe that most of the cases of puerperal fever are purely septicæmic or pyæmic in their nature. When we reflect on the condition of the puerperal woman, the condition of the genital organs, the placental wound, the abrasions and lacerations of the cervix, os uteri and perineum, the wonder is that so many women escape the dangers from within and without. The important point to remember is the protective power of healthy granulations. Anything which interferes with the granulating process predisposes the patient to septic infection. It is an exception to a very general rule for septicæmia to develop, ex-

cept from a wound or abrasion, but possibly it might arise from thrombosis.

The sources of heterogenetic infection are numerous. The disease may be communicated by the attending physician, nurse, or other persons. The poison might result from any infectious disease, from another case of puerperal fever, or even from post-mortem examinations or dissections. It may adhere to the clothes, or to the person, or the poison may be in the air, especially in hospitals and over-crowded tenements.

"What relation have bacteria and allied organic forms to the pyæmic process in the puerperal state?" Four opinions are entertained. Some eminent authorities contend that they are the effect, not the cause of infection. Others regard them as merely coïncident. Others that they are the carriers of the contagion, and there are those who believe that they are the active cause of the disease. Their influence is still involved in obscurity. In themselves they are probably innocuous, but is it not possible that they may absorb the various poisons from infectious diseases, poisoned wounds, etc., and then by coming in contact with a healthy person, or a healthy wound, may they not produce the disease, the poison of which they have absorbed? If this theory be true, we can understand the prevalence of septicæmia and pyæmia in the wards of hospitals, especially hospitals for lying-in women. Pyæmia and septicæmia may be contagious, in a restricted sense of the word, and if so, it is easy to see that they may be frightful sources of some forms of puerperal fever.

I believe that from the infectious diseases, septicæmia and pyæmia, arise all the cases which can properly be classed as puerperal fever.

Before labor, women are peculiarly exempt from various morbific influences, but as soon as they are delivered, they become more than ordinarily susceptible of disease. This is because the generative organs are left in a condition to absorb poison, and also because the uterine absorbents are very active soon after labor. A woman will usually escape puerperal fever

in any of its forms, if she safely passes the first four or five days. [Is this because she is then protected by healthy granulations ?—Secretary.]

The following questions were propounded by Mr. Spencer Wells during the discussion on puerperal fever recently held by the London Obstetrical Society:

1st. "Is there any form of continued fever communicable by contagion or infection, and occurring in connection with childbirth, which is distinctly caused by a special morbid poison, and as definite in its progress and the local lesions with it, as typhoid, typhus, scarlet fever, small-pox, or measles?" A negative answer was given to this question by every physician participating in the debate, except Professor Barker, of New York.

2d. "May all forms of puerperal fever be referred to attacks of some infective continued fever, as scarlet fever or measles, occurring in connection with childbirth on the one hand, or on the other, to some forms of surgical fever, or to erysipelas, caused by or associated with changes in the uterus and neighboring parts, following the process of childbirth?" The question was answered in the affirmative by a large majority.

3d. "If all cases of contagious or infectious diseases which occur under other conditions than that of childbirth are set aside, does there remain any such disease as puerperal fever?" I think not; at least it remains to be proved.

How can puerperal fever be prevented or checked? This is practically the most important part of the suject. No physician should attend a woman in labor without taking the greatest care that his person, his clothing, and instruments are perfectly free from all morbific poisons which might originate puerperal fever. Disinfectants should be used in washing the hands and in destroying organic poisons clinging to men's clothing. Dr. Wynn Williams had recommended iodine. A few scales placed on a hot metal plate are sufficient to protect the clothing and person of the physician. Special attention should be paid to the hands and nails. I believe that a physician may rid himself of infection by washing his hands with a solution of

permanganate of potassa, chloride of lime or zinc, chlorinated soda or carbolic acid, and apply a carbolized oil to his finger when making the necessary examinations.

Should a physician who attends a case of puerperal fever abstain from midwifery practice for a certain length of time? If he uses disinfectants properly I think that he may safely continue. But, if in spite of his precautions, a second case should occur, he owes it to humanity to give up at once all his obstetrical engagements for at least one month. The nature of the disease and its great mortality calls to mind the old adage "an ounce of prevention is worth a pound of cure." It is principally the prophylactic treatment which will avail us much in puerperal fever.

In the treatment of the disease when developed, I would place the most reliance upon the internal administration of quinine or tinct. of the chloride of iron. Give opium to relieve pain and secure rest. Apply, locally, hot fomentations or turpentine stupes. Use antiseptic and disinfectant injections to the vagina, and if the lochial discharges were offensive, I would resort to intra-uterine injections. For this purpose solutions of carbolic acid, permanganate of potassa, chlorinated soda, and probably salicylic acid will answer.

The patient should be sustained by the most liberal diet, and by the use of stimulants pro re nata.

To us, gentlemen, falls the task of keeping an accurate record of every case of puerperal fever which may come under our observations, using our best endeavors to trace every case to its source, if possible. If I can persuade you all, or any one of you, that this is the proper course to pursue, I will feel that this paper has not been written in vain.

On motion, the Association ajourned for dinner.

AFTERNOON SESSION.

Dr. Rodman invited the Association to hold the next meeting in Frankfort. Dr. Bright extended an invitation to meet at Eminence. Dr. Crossfield invited the members to meet at Lawrenceburg.

On motion, it was decided to select the place of meeting by ballot. Ballot cast, and Frankfort was the place chosen to hold the next meeting.

A motion was made and carried to meet on the first Wednesday in February, 1876.

Typhoid fever was selected as the subject of the next discussion. Dr. Logan was appointed to read a paper on that subject.

The Secretary was, by motion, instructed to invite the physicians of Fayette, Woodford, and Scott counties to join with us at our meeting in Frankfort.

On motion, Dr. Rodman's paper was taken up, and the remainder of the evening was devoted to a discussion of the subject designated—puerperal fever.

Dr. Baker remarked that during a practice of forty years it had been his good fortune never to have met with an epidemic of puerperal fever. During this long and extensive practice he had passed through quite a number of epidemics of zymotic diseases—scarlet fever, measles, diphtheria, and erysipelas, but had never witnessed an epidemic of puerperal fever. Neither had he ever seen any of the zymotic diseases communicated to puerperal women. He supposed this to be his own peculiar good luck, as undoubtedly other gentlemen had met with and reported cases of puerperal fever resulting from erysipelas and diseases of that class. He had never used any disinfectants, more than simple cleanliness, which he supposed every gentleman observed. Puerperal fever in his practice had been rare, he had not met with more than a half dozen in ten years. He frequently saw cases of metritis and other inflammatory diseases follow labor, but these he did not regard as puerperal fever. They generally recover by the use of opium and other suitable remedies. The fatal cases that he had met with were generally those in which uræmic poisoning had supervened. He had never seen the disease communicated to another patient in his own practice, nor had he ever known the disease to follow the footsteps of any particular practitioner.

He did not believe that puerperal fever was caused by a special morbid poisoning.

Dr. Logan said that his experience in the disease had been quite limited. During last winter and spring there was undoubtedly a predisposition in puerperal women in this vicinity to take on inflammatory affections of the uterine system. Four cases of this kind had occurred in his own practice. Three of them were quite severe, but fortunately all recovered. Other women whom he had delivered during that time made their usual good recoveries. He, therefore, did not believe there was in these cases any primary blood affection or any contagion. He had also observed that during the time mentioned there was a well marked tendency toward inflammatory affections of the uterine system even in non-puerperal women. He saw one case of pelvic cellulitis in a lady seven months advanced in pregnancy result in abortion. The case was a very grave one, but happily the patient recovered after an illness nigh unto death of more than two weeks. He saw a case last summer of pelvic inflammation beginning at a menstrual period, which resulted in such a large and hard mass of inflammatory exudation, that at one time a malignant growth was suspected. In a case of chronic endometritis in which it was necessary to dilate the cervical canal, the presence of a sponge-tent excited an attack of metritis which proved fatal in ten days. There was such a manifest tendency for these inflammatory diseases to prevail, that he had postponed an operation for contraction of the cervical canal after he had made preparations to operate, and finally had abondoned the surgical procedure altogether. He could not account for the disposition of these diseases to prevail at that time. There were no zymotic affections prevailing. Had there been an epidemic of erysipelas, doubtless many of these cases would have been complicated blood contamination, or in other words, we would have had a fearful epidemic of puerperal fever. He regards puerperal fever as a septic and not a zymotic disease. There is a just distinction between the two classes. Zymotic

diseases are caused by the presence in the blood of specific poisons. Septic diseases, on the other hand, can be produced by different causes. Hospital miasm can generate erysipelas, hospital gangrene, septicæmia, pyæmia, or puerperal fever, but no amount of overcrowding or filth can alone produce a zymotic disease. If a zymotic disease can cause puerperal fever, it must do so by the septic poison given off from the patient and not from the specific poison of the zymotic disease. Such at least was his creed upon the subject. If this theory be not true, how can you explain the fact that puerperal women exposed to a zymotic patient, as scarlet fever, may at one time have scarlet fever, and at another time present all the symptoms of puerperal fever? He believed that a large majority of cases of puerperal fever were of an erysipelatous nature. This was especially true in country practice. He could see no reason for believing puerperal fever to be an essential fever *sui generis*. Setting aside the local affections, all cases can be comprehended under the erysipelatous maladies—septicæmia or pyæmia. Puerperal fever is a septic disease complicated usually by local lesions of an erysipelatous or gangrenous character, modified by the general and local condition of the patient, communicable by direct inoculation and manually transferable, but not contagious in the true sense of the word. Professor Barker, of New York, looks upon the disease as one caused by a special and specific poison, as an essentlal fever *sui generis*. Professor Barker is an able writer, a physician of large experience, and his opinion is, therefore, entitled to great respect. He sustains his theory by very ingenious and plausible arguments, but they are by no means conclusive.

Dr. Duvall observed that he had recently a very sad experience in puerperal cases. He had only occasionally seen the disease, but his experience with it had been quite unfortunate. He was the physician referred to by Dr. Rodman in his paper. In addition to those mentioned by Dr. Rodman, he had seen a few other cases of the same nature. Last winter he was treat-

ing a case of erysipelas. During the time he was called hurriedly to attend a lady in confinement. The labor was short, and he remained with her but a few minutes. On the third day this lady was seized with puerperal peritonitis, and died a few days afterwards. Another patient was attacked and also died. He had also seen two non-puerperal patients, whom he was at the same time treating for abrasion of the os uteri, attacked with the same symptoms as the puerperal women, both of whom perished in a few days. He believed that these were cases of erysipelas communicated from the case of that disease which he was treating at the time he attended the case of puerperal peritonitis. He was satisfied that the same causes which produce erysipelas, septicæmia, and pyæmia, can produce puerperal fever also.

During the late war he had amputated the leg of a soldier in a tent hospital. The man did remarkably well until a patient in an adjoining tent broke out with the scarlet fever. Soon afterwards his patient presented well marked symptoms of septicæmia. He did not know that his patient had been infected by the case of scarlet fever, but it was, at any rate, a very significant coïncidence.

The President, Dr. Williams, remarked that he was a country practitioner exclusively. Never saw diseases in hospitals or in crowded places. Last winter, during the prevalance of puerperal fever cases in Frankfort, mentioned by Drs. Rodman and Duvall, he visited a case of erysipelas in consultation, and applied a bandage to the affected limb, the leg. That evening he was called to attend a case of labor. The labor terminated quickly, and he was with the woman but a short time. Took all precautions not to handle her, or her genital organs, more than was absolutely necessary. The case had advanced to the second stage when he arrived; no examination was made. As the head passed through the ostium vaginæ he supported the perineum. The after-birth was delivered by a simple traction on the cord. Did not apply a bandage. On the second day patient was seized with puerperal fever. The attack was violent, but fortunately

she recovered. The child died on the fourth day. He attended no other cases of labor for six weeks, and met with no other cases of puerperal fever. Dr. Williams expressed the opinion that he had been the means of communicating the poison to this patient from the case of erysipelas.

Dr. Bishop, like the most of country doctors, said that he had seen but little of puerperal fever. Some time ago he attended two cases, in both of which the children died of erysipelas. Another case followed an abortion. On the tenth day afterwards, a sister-in-law of the lady, living with her, was attacked with erysipelas. She was pregnant at the time but did not abort. He, some time after that, delivered her of a healthy child at full term.

The discussion of puerperal fever here closed.

On motion the Secretary was instructed to forward copies of the transactions of the Association to the "American Practitioner" and the "Richmond and Louisville Medical Journal" for publication.

On motion, the thanks of the Association were tendered the Odd Fellows for the use of their hall.

On motion, the Association adjourned to meet in Frankfort on the first Wednesday of February, 1876.

U. V. Williams, President.

R. F. Logan, Secretary.

Indiana, Illinois, and Kentucky Tri-State Medical Association.

The first session of this Association was held in the Courthouse in the city of Vincennes, Ind., Tuesday, October 26, 1875.

The President, Dr. B. F. Swafford, of Indiana, called the Society to order. Prayer was offered by the Rev. Dr. Austin, of Vincennes, Ind.

His Honor, Mayor Beeson, delivered the address of welcome to the delegates, paying a well-deserved tribute to the high standing of the Profession.

Dr. J. W. Thompson, of Kentucky, responded to the Mayor in a few appropriate remarks.

Dr. T. W. Beard, Chairman of the Committee of Arrangements, delivered an address, giving a résumé of the history of Vincennes, and stating the purpose for which this Association was called.

The President delivered his inaugural, and, at the conclusion of the address, appointed the following standing committees:

Organization—Drs. Hitt, Patton, Barton, and Munford.

Membership—Drs. Thompson, Rafferty, and Mitchell.

Nominations—Drs. Armstrong, Peck, Pritchitt, Smith, and Lounsdale.

Publication——Drs. Smith, Patton, Willieu, Beard, and Burton.

Finance—Drs. Smydth, Charlton, and Mantle.

Programme—Drs. Letcher, Beard, Gray, Luckett, Bray, Burton, and Rafferty.

Arrangemsnts—Drs. Patton, Hitt, Beard, Smith, Thomas, Jessup, Beeson, Beaver, and Mantle.

A number of excellent papers and case reports were read before the Association, and ordered to be published in the Louisville, Cincinnati, Indianapolis, and Chicago medical journals.

The Committee on Nominations reported the following officers for the ensuing year: President, Dr. J. W. Thompson, of Kentucky; Vice-Presidents, Drs. W. A. Smith, of Illinois, J. H. Letcher, of Kentucky, J. B. Armstrong, of Indiana; Secretary, Dr. G. W. Burton, of Indiana; Corresponding Secretary, Dr. F. W. Beard, of Indiana; Assistants, Drs. E. H. Luckett, of Kentucky, T. M. Rafferty, of Illinois; Treasurer, Dr. A. Patton, of Indiana.

After a very pleasant and profitable session of two days, and one long to be remembered on account of the good feeling existing, the Association adjourned to meet in the city of Vincennes on the fourth Tuesday in October, 1876.

G. W. Burton, Sec.

CHEMICAL AND PHARMACEUTICAL.

"Diruit, ædificat, mutat."—Hor.

The American Tea.—Growing along the Atlantic coast of the United States, from Virginia southward, is the Ilex cassine, or, as it is sometimes called, the American tea—a plant whose leaves, mixed with those of other species of the same genus, were used by the aborigines in forming the decoction known as "yaupon," or "black drink." The maté of Paraguay is closely allied in its botanical relations to the plant under consideration. It is well known that this Paraguay tea contains largely of theine, and the fact that the Northern Indians used our Ilex very much as the aborigines of Paraguay used their Ilex, ought, one would think, to have attracted attention long ago to the North American plant.

During the Revolution the leaves of the Ceanothus Americanus were used as a substitute for the Chinese herb, and, possibly owing to this fact, some few years since, a company was organized for the purpose of producing, and actually did produce, a "tea" prepared from the Ceanothus. Analysis showed, however, that this product contained no theine; and although the New Jersey staple was quite extensively advertised, it soon disappeared from sight. Subsequently, we were informed by a dealer that this American tea was still manufactured, but that it was used solely for the adulteration of the genuine article. Whether or not it is still produced we do not know.

A Mr. H. M. Smith has recently made an analysis of this "yaupon" ("The Journal of Applied Science," September 1, 1874), and found that it contains a very large percentage of theine, besides a peculiar volatile oil having a tea-like odor. The specimen analyzed was composed in a very large proportion of twigs, yet the percentage of theine present was as great as that usually found in maté. The following table expresses the proportion in one hundred parts of the substances named:

	Yaupon.	Maté, or Paraguay tea.	Black tea average.	Green tea average.	Green tea	Coffee.
		Stenhouse.	Mulder.	Muller.	Peligot.	Payen.
Volatile oil.....	0.01		0.63	0.88	0.50	0.003
Caffeine.....	0.12	0.13	0.56	0.52	6.00	1.00
Tannin.....	2.41		2.04	17.68	14.00	10.00

The yaupon leaves were a regular article of commerce among the North American Indians. The "black drink" was used by the Indians, especially at their council and tribal feasts. It was taken very strong and in large quantities, and is said to have frequently acted as an emetic. In contained, however, besides the leaves of Ilex cassine those of the Ilex vomitoria and of other species of the genus, and it is possible that it owed to them its power of causing vomiting. Evidently, if the Ilex cassine possesses a persistent emetic property it will never afford a cup of tea which shall be popular with the white man. A general emesis might be a bond of misery among a council of Indians, but would hardly suit the average sippers of Bohea. Mr. Smith, however, failed to detect any emetic principle in the Ilex cassine, and the subject seems to demand investigation.—*Medical Times.*

New Preparation of Ergot.—A very active preparation of ergot, which is particularly adopted for subcutaneous injection, is suggested by Dr. Wernich, of Berlin, who proposes to exhaust the drug with ether, strong alcohol, and finally with water. The infusion is then dialyzed through parchment paper, and the solution evaporated. This extract, after acidulation with sulphuric acid, was mostly soluble in alcohol, and when again carefully neutralized by soda, yielded all its active properties to weak alcohol.—*Apotheker Zietung—Amer. Journal of Pharmacy.*

Potato Bugs as Vesicants.—The "Medical and Surgical Reporter" says that a medical manufacturing firm in Indianapolis advertised last Fall for one thousand pounds of potato bugs, which are to be used as a substitute for Spanish flies.

We have known for several years (say twenty-four years), by actual experiment, in Concordia parish, Louisiana, that the potato bugs will vesicate just as certainly and efficiently as the *Lytta Vesicatoria* when prepared in the same way. The first intimation of this was given by handling them and mashing them in the fingers, when we had a painful realization of the fact. No experiments were made as to their action on the kidneys as a diuretic, but we have no doubt they will produce the same effect as cantharides.—*New Remedies.*

Bloodletting in Poisoning by Strychnia.—Dr. Briggs calls attention to this subject. He says that a common practice with drovers of Southern California, in the treatment of dogs poisoned by strychnia, is to cut off the ears, and if this fails to cure the spasms to treat the tail in like manner. He says that not one in twenty die after this operation. He says that he has seen dogs apparently in their last movements, perfectly rigid in opisthotonic spasms, tongue almost black, the moment the caudal appendage was chopped off there would be a relaxation, the blood first coming thick and tarry, then flowing more freely and red, as the spasmodic action was lessened. Further, a patient accidentally poisoned by strychnia, while in spasms, wounded himself so as to lose much blood; no spasm returned.—*Pacific Med. and Surg. Jour.*

The Preservation of Leeches.—Mr. George H. Burnham, writing to "The Laboratory," remarks that many pharmacists have, no doubt, found the preservation of leeches a matter of great annoyance and loss.

The more common usage is to place them in earthen jars with perforated covers, and containing a quantity of earth; the leeches being looked to occasionally to ascertain their sanitary condition.

I have also known the druggist to place old water-logged sticks, with a few pebbles, in a proper vessel, forming a sort of artificial pond. The leeches free themselves from the slime which collects upon them by drawing themselves through the debris at the bottom of the aquarium.

The following method for the preservation of leeches, has, in my experience, been most successful. Half a dozen "ten-penny" nails are placed at the bottom of a glass jar holding about eight pints—upon them is placed a piece of very porous sponge.

The jar being filled with water, we have an aquarium in which two dozen leeches will live for many months without a single loss by death; a piece of lawn of about one hundred meshes to the square inch should be secured by a strong rubber band to the top of the jar in order to prevent the escape of the leeches.

When the water is changed, the sponge should be thoroughly cleansed, to remove a quantity of slimy matter from the cells.

It is said that the presence of metallic iron in water prevents it from becoming putrid. This influence is very marked in water in which leeches are preserved, in consequence of which, the change of the water becomes unnecessary except after long intervals.

The jar containing the leeches should be kept at a comparatively even temperature from 55° to 65° F., excluded from sunlight, and a quantity of fresh water added every five or six days.

The "Journal of the Society of Arts" says: "Paris is the best market in Europe for leeches. The mouth of the Danube is now the best fishing ground, and no less than £120,000 in value of leeches are annually sent from Paris to Trieste. The best leech is said to be a native of Australia, as he does his work in a shorter time than any other. The viceroy of Egypt has granted a monopoly of 3,000,000 leeches annually, which are to be found in the bed of the Nile after the periodical inun-

dation of that river, to a French dealer. On arriving in Paris, those not required for active duty are sent to Gentilly, where they are lodged in reservoirs provided with greasy mud and filled with greenish water."—*New Remedies.*

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

"Judex damnatur cum nocens absolvitur."

CHOLERA EPIDEMIC OF 1873 IN THE UNITED STATES. Washington: Government Printing Office. 1875.

This is a history of the epidemic of cholera as it appeared in the United States in 1873. Embraced in this are a History of the Travels of Asiatic Cholera, and the Bibliography of Cholera. There is also a report by Dr. John M. Woodworth, Supervising Surgeon of the United States' Merchant Marine Hospital Service, on the Introduction of Epidemic Cholera into the United States through the Agency of the Mercantile Marine, Suggestions of Measures of Prevention, etc.

The volume contains over a thousand pages, and was issued under a joint act of Congress approved March, 1874, which directs the Secretary of War "to detail one medical officer of the army, who shall, in connection with the Supervising Surgeon of Marine Hospitals, visit the towns at which cholera prevailed during 1873, collect, as far as possible, all the facts of importance in regard to the epidemic, and make a detailed report of the information collected by the first of January, 1875." The medical officer selected to perform this work was Assistant Surgeon Ely McClellan, U. S. A., and very creditably and thoroughly has he done it.

The opening report, by Dr. Woodworth, Supervising Surgeon of Marine Hospitals, is short, but replete with useful information and valuable suggestions as to the proper means to be

adopted to prevent the importation and spread of cholera, as well as demonstrating the inefficiency of the old system of quarantine.

As there is no longer any doubt in the medical mind of the Asiatic origin of cholera, it follows that its spread to other countries is through the agency of ocean travel and traffic. The existing system of quarantine regulations has utterly failed to stop the march of the disease, and from the peculiar nature of cholera poison, as Dr. Woodworth has shown, almost any quarantine measures based upon the present method, however rigidly enforced, will prove futile. Notable instances of this fact are seen in the outbreaks of cholera—the details of which are given by Dr. McClellan in his report—almost simultaneously in the widely separated localities of Carthage, Ohio, Crow River, Minnesota, and Yankton, Dakota Territory. These places were the destination of emigrants from Holland, Sweden, and Russia, and they had packed and carried the poison in their personal effects to their new homes. These people were perfectly healthy, as were the vessels which brought them over, and it was not until their goods were unpacked that cholera made its appearance. Twenty-four hours after, the first cases occurred, and "the unfortunates were almost literally swept from the face of the earth." In these instances, which might be multiplied, it will be apparent that the most vigilant inspection of persons alone would not have availed to prevent these outbreaks. As the prevention of the introduction of cholera to our shores is a matter of paramount importance, any means looking to that end will be of general interest.

The plan advocated by Dr. Woodworth for this purpose is worthy of consideration and trial. If faithfully carried out, it promises far better success in the attainment of this object than any system of quarantine. He says: "A circular letter from His Excellency the President, through the Department of State, instructing consular officers to place themselves in communication with the health authorities of their respective localities; to advise promptly, by cable if necessary, of the out-

break of cholera (or other epidemic disease) at their ports, or in any station in communication therewith; to inspect all vessels clearing for United States ports with reference to the original and intermediate, as well as to the final points of departure of emigrants thereon; and to report always by cable, the sailing and destination of any such vessel carrying infected or suspected passengers or goods; this should be the first step." "And the next would be equally simple. A medical officer, selected for his good judgment and attainments in sanitary science, should collate and digest the information thus obtained, and transmit direct to the ports threatened, as well as through the public press, the note of warning. Thus advised, the threatened community would have ample time for preparation, and the publicity given to the warning would be the most efficient means of insuring proper precautionary measures."

Had this plan been in operation, it is highly probable that the epidemic of 1873 might have been greatly diminished, if not arrested entirely.

Dr. Woodworth gives considerable prominence to the "acid prophylaxis of cholera," asserting that the cholera literature for the past sixty years abounds in proofs of the efficacy of sulphuric acid. He thinks there is but little doubt that "we possess in the mineral acids a certain means of prophylaxis against cholera."

The mortality among cholera patients under the acid treatment, according to Dr. McClellan, was only 8 per cent., whereas the lowest mortality, when other remedies were used, was 23 per cent., and the highest 59 per cent.

The series of propositions embraced in the report relative to the nature, development, means of dissemination, etc., of the cholera contagion, condensed from a vast mass of accumulated evidence from every source, is highly interesting and instructive. Representing the most advanced views on this subject, these propositions, braced by such overwhelming proofs in their favor, must commend themselves to the thoughtful consideration of every reflecting mind. Both the successful treatment

and prevention of malignant cholera are based on the intelligent comprehension of the nature and action of the cholera virus, and the results of investigations of the epidemic of 1873, as recorded in this volume, are admirably corroborative of the statements set forth in these propositions. Nowhere in the narrative of the epidemic, which Dr. McClellan has so admirably detailed, is there any satisfactory evidence in support of the theory of the malarial origin of cholera. On the contrary, all the related facts from the initial to the final case plainly disprove such a theory.

Dr. Woodworth sums up his able report with the emphatic declaration, "that the true remedy against cholera is preventive medicine," and that epidemics of this disease can be controlled by "vigorous hygienic measures"; statements which every unbiased mind that has studied the manifestations of Asiatic cholera to the present time, will be forced to give a more or less favorable assent to. The exhaustive report of the epidemic, in which is included its etiology, clinical history, and a paper on the prevention of cholera, comprising over 500 pages, by Dr. McClellan, which follows, is by far the most valuable and practical portion of the volume. One hardly knows which to admire most, the remarkable industry of the accomplished author, the grace and ease of his style, or the mass of invaluable information which he has here presented to the Profession.

Some idea of the magnitude of the labors performed by him in preparing this excellent report, may be gathered from the fact that the disease invaded no less than eighteen States and territories, from Louisiana to Dakota, and as far east as New York, the infected localities numbering two hundred and sixty-four. The time allotted for the completion of the work being barely eight months, it was impossible to visit all the infected points in person, and consequently much of the information given in the report was derived from correspondence.

Full records of 7,356 cases are given, which, however, represent only a small portion of the real number of cases that occurred during the progress of the epidemic. Dr. McClellan

explains very satisfactorily the causes of his inability to procure reports of more cases. Of the reported cases, 3,000 died, the termination of 30 being unknown. The initial cases of the epidemic occurred in New Orleans as early as February 9th. In April it appeared in Mississippi, Arkansas, and Tennessee; and in May, in Illinois, Missouri, Kentucky, Ohio, and Indiana. We find it in Alabama and West Virginia in June, and in July in Georgia and Minnesota. It reached Pennsylvania, Texas, Utah, Iowa, and Dakota in August, and New York in September. The eccentric route the epidemic pursued will be apparent to the most cursory reader. This feature, which is markedly present in all cholera epidemics, affords one of the strongest evidences of the portability of the cholera poison. The disease expended its greatest violence in Tennessee and Kentucky, remaining in those States until long after midsummer. Dr. McClellan does not find any difficulty from his extended and painstaking investigations in pronouncing the disease to be "malignant epidemic cholera," a conclusion that all must reach who read carefully his report. He shows that in this, as in other epidemics of cholera, neither age, sex, color, nor condition of life was exempted from its influences. Fatal cases are reported in the infant of one month, and in the centenarian. Pregnancy offered no safety from its attacks. The greatest number of deaths occurred between the ages of twenty and forty, males suffering more than females, and, in proportion to the numbers, blacks than whites. More married people were attacked than single. The greatest mortality, as was to be expected, was found among the lower ranks, but the upper classes by no means escaped. The residents of the most salubrious localities, who were observant of the ordinary laws of health, suffered also. The symptoms and general course of the attacks were similar to those observed in former epidemics of Asiatic cholera. The greater number of cases were treated by calomel, opiates, astringents, and stimulants; the highest mortality resulting when stimulants alone were used.

Reference has already been made to the prophylactic and re-

medial use of the mineral acids in the epidemic, and the astonishingly low death-rate resulting, as compared to the other plans of treatment resorted to. Although only sixty-four cases with five deaths are reported by Dr. McClellan in which sulphuric acid was employed, they are sufficient to bring into bold prominence the high claims of this remedy in the treatment of malignant cholera.

In the series of interesting experiments made by Dr. Nedswetzky, of Russia, to ascertain what effect the various remedies which had been used in the treatment of cholera had upon the bacteria found in cholera dejections, which are given at length in the report, he found that quinine, camphor, carbolic acid, tar, calomel, and chloral had no effect upon them; that opium, nux vomica, and chloroform killed them slowly; while tannin, sulphate of iron, chlorine water, and dilute sulphuric, nitric, and muriatic acid destroyed them rapidly.

In the etiology of the epidemic, the author has condensed in a series of propositions all that is known of the causes, manner of propagation, etc., of epidemic cholera, which presents one of the most interesting features of the report. Attention is drawn in a forcible manner to the rapid and mild dissemination of cholera poison through the agency of common carriers by land and water, after the disease has found a lodgment on our shores. Chief among these are railways and steamboats, and the suggestions and recommendations proposed by him to combat this evil, are based on sound sanitary principles, and the companies should be compelled to adopt them.

In his admirable article on the prevention of cholera, special stress is laid on the absolute necessity for cleanliness, both as to person and habitation, with rigid and persistent sanitary measures, and the use of effective disinfectants. It contains much sound counsel relative to the dress, daily habits, manner of living, etc., etc., of individuals during the prevalence of cholera, as well as important instructions concerning the proper disposal of house refuse. Conspicuous in the author's estimation, justified by past experience, as a most efficient vehicle for

diffusing cholera virus, is water, and his remarks on the precautions to be observed in the use of drinking water during an epidemic, and on other matters inseparably connected with the subject, are of inestimable service.

In the narrative of the epidemic, Dr. McClellan has brought forth with great labor and care a vast array of facts and information of incalculable value and interest. To be fully appreciated, it should be read. The ability and remarkable industry displayed by the author in this production, reflect great credit upon the sagacity and wisdom of the able and accomplished head of the Medical Department of the United States Army, exhibited in the selection of Dr. McClellan to perform this important work. He has very conveniently arranged the cases in distinct groups, as they occurred in the several States and territories, in the order of invasion.

The contagionists will find here ample material with which to justify their position. The narrative abounds in instances showing conclusively the contagiousness of cholera. One instance is quoted, which is also indicative of the imperishable nature of the cholera virus: "During the month of October, 1866, the steamer Belle of Memphis landed at Goose Island, Illinois, and buried the bodies of three persons who had died on board the boat from cholera. Early in the spring of 1873 a saw-mill was located upon the ground, a portion of which was occupied by these graves. Before, however, the building was completed, the old graves were opened, and the boxes containing the remains of the cholera dead were removed to new graves that had been prepared at some little distance. Early on the morning of May 3d, the day after the work had been performed, Dr. Lawrence was called to see a man named King, who was one of the party which had been employed in the removal of the coffins, and found him in the collapse stage of cholera. He died within a few hours. During the next eight days eleven cases of cholera occurred among the employés of the saw-mill, or in persons of individuals living in the immediate vicinity. Of the 11 cases, 8 were fatal within a few hours."

Allusion has already been made to the outbreaks at Yankton, Carthage, and Crow River, and it would seem superfluous to dwell longer on this subject. In all the reported cases where the full particulars could be ascertained, the disease is shown to be due entirely to direct human intercourse.

The nature of the essential poison of cholera, whether it is a living organism or a specific organic poison, is fully discussed in the volume, the views held being decidedly in favor of the latter theory.

The history of the Travels of Asiatic Cholera in Asia and Europe, by Dr. John C. Peters, of New York, and in North America by Dr. Ely McClellan, is full of interest to the cholera student. Much information is given touching the origin and manner of dissemination of cholera throughout the East, and Dr. McClellan gives an entertaining description of the successive invasions of the disease in this country, comprising five epidemics from 1832 to 1873. The whole work is chiefly his.

The bibliography of cholera, prepared by Dr. John S. Billings, U. S. A., deserves more than a passing notice. Its value can hardly be exaggerated. One not conversant with the subject will be amazed at the vast number of books, etc., that have been published on cholera. The compilation of this list is an evidence of much patient search and sound judgment. The excellent maps and diagrams interspersed throughout the work are convenient aids in following the course of the disease.

Although this report is a valuable contribution to cholera literature, and can not fail to take front rank with any work that has been hitherto published on cholera, aside from its great scientific value, it may be said of it that it will lessen the dread of cholera in the public mind, which is an important consideration.

Probably something should be said in praise of Congress for this manifestation of good sense and interest in the general health of the people, but it would be more to its credit if, at the next session, it would authorize the publication of sufficient copies of the report to place it in the hands of every physician in the country. The whole Profession ask this.

ORIGINAL CORRESPONDENCE.

"Sit mihi Fas scribere audita."

New York, November, 1875.

Prof. E. S. Gaillard:

Dear Sir,—The annual meeting of the County Medical Society was held in October, and at that time all the present officers were reëlected, Dr. Sands remaining President, and Dr. Emmet, Vice-President.

At a recent meeting of the Academy of Medicine, Dr. H. G. Piffard, Professor of Dermatology in the University Medical College, read a paper on "The Rheumic Diathesis in Dermatology." He employed the term rheumic, he said, because an exudation was indicated by it, because it implied a similar condition of the blood to that in rheumatism and gout, and, finally, because the skin affections he would class under it—eczema, psoriasis, and pityriasis—were vulgarly known under the general appellation of "salt-rheum." The existence of such a diathesis could not be positively demonstrated, but the probabilities were strongly in its favor. As to its precise nature there was a great diversity of opinion, but Dr. Piffard thought that the diseases classed as rheumic ought to be considered as characterized by an access of certain excrementitious substances in the blood, such as uric, lactic, and oxalic acids, creatine, etc. He referred at some length to their production from matters introduced into the body as food, especially albuminoid, saccharine, and amylaceous substances, believing this to be due to their insufficient oxidation, and, agreeing with Murchison, that the latter was attributable, in great part, to the imperfect action of the liver. The presence of alkalies in the system materially assists the process of oxidation; and this is an important point to remember in connection with the treatment of the rheumic affections. When there is an excess of excrementitious matter in the blood the kidneys are unable to carry them all off, and the skin is, therefore, called upon to assist in their elimination. In the treat-

ment of these diseases it must be an aim to modify the diathesis. The accumulations of noxious material, which may be due either to the insufficient working of the kidneys, or the imperfect oxidation of substances introduced as food, must be gotten rid of by acting upon the kidneys, skin, and bowels. It is of great importance that the diet should be properly regulated, and it is often necessary to greatly diminish the ordinary quantity of nitrogenous food employed. We must also take good care that the liver performs its functions properly. Local, as well as constitutional treatment is useful, if not essential in most cases, and is to be modified according to the circumstances.

The subject was ably discussed by a number of dermatologists present, some of whom coïncided substantially with the opinions of Dr. Piffard, while others were quite unwilling to subscribe to the diathetic view of these affections.

At the last meeting of the Academy, Dr. Jacobi, who was one of the most intimate friends of the deceased, delivered an eloquent eulogy of the late Dr. Krackowizer, giving an extended sketch of his life and character.

The first Friday evening reünion of the Medical Journal Association at the Academy building was held October 29th, when Dr. Mary Putnam Jacobi read a report on the "Progress of Therapeutics." The new reading rooms there will be opened on the 15th of the present month. The Association has dropped the word Library from its title, and will endeavor to sell out all its books, with the exception of bound volumes of journals, to the Academy of Medicine. The most recent paper read before the Society was one on "Writers' Cramp," by Dr. George M. Beard.

We have lately had the opportunity of witnessing an amputation at the Roosevelt Hospital by Professor T. M. Markoe. Dr. Markoe is exceedingly cool and self-possessed in the amphitheatre, and he has a certain off-hand manner, which, with considerable drollness and a keen sense of humor, has won for him a fair share of popularity among students. In his manipulations he displays a little of the airy, flourishing of the hands

and fingers, formerly a good deal affected by surgeons, but which, as it seems to us, appears slightly ridiculous at the present day. It was rather remarkable, he said, that the man whose leg was to be amputated had come into the hospital of his own accord, expressly for the purpose of having it taken off. The patient was forty-three years old, and his history was briefly as follows: Nine years ago he met with a compound fracture of the right leg, just above the ankle-joint, which must have been of a very serious character, as he was sixteen months in hospital (in a western city) before he recovered. At the end of the ninth month he said a large piece of necrosed bone came away. Firm union took place, but the parts were not in perfect coäptation (the lower fragment of the tibia being tilted outward considerably), and there was three inches shortening of the limb. The man got along pretty well for one or two years after his discharge, but there was so much pressure on the toes, and the heel was so elevated that the leg was not of much service to him. For the last five or six years he has suffered very severely from neuralgic pains in the ankle-joint and at the seat of fracture. He has also sprained the ankle several times. The last time, which was quite recently, it resulted in a large superficial abscess, and this has finally decided him to submit to amputation. This case, Dr. Markoe remarked, shows that in compound fractures we do not always succeed in making a useful limb, although the parts may be perfectly healed. Amputation is far preferable in such instances as this, though we should, of course, always make an honest effort to save the limb at first. Had this been done here, the man would have been spared many months' confinement in hospital, and years of subsequent suffering, as well as have had a much more useful leg, with no such unsightly deformity as this. The operation selected was Allinson's, with ample skin flaps and the conical muscular stump, and was very dexterously performed. Esmarch's bandage was not used in this case, because the man was in excellent general condition, and the amount of blood lost would certainly not exceed that naturally belonging to the part cut

off. After the principal arteries had been ligated, Dr. Markoe preferred to remove the tourniquet entirely, instead of slightly loosening it, as is usually done (a large sponge being placed within the flaps), and this enabled him to find and secure all the smaller bleeding vessels. He anticipated primary union in this case.

Apropos of amputations, I wonder if you saw the account of the very remarkable one performed in Cleveland, Ohio, the other day. It seems that a man and his wife had been on a drunken spree together, and that during the course of their carousal, the latter had been treated to a very severe beating by her lord and master. As soon as the couple returned to their home, the husband threw himself down upon the bed, completely overcome by the effects of the liquor, and the affectionate spouse, who seems to have had a curious taste for amateur surgery, at once determined upon her revenge. Procuring some chloroform, she saturated a handkerchief with it and held it over his mouth and nostrils until complete anæsthesia had been produced. With a common carpenter's saw she then actually took off one of his legs a short distance below the knee. Of course, the hæmorrhage was enormous, but was probably prevented from being immediately fatal by the bruising of the vessels by the teeth of the saw. In a short time some of the neighbors got wind of the affair, and after a tight ligature had been tied around the bleeding stump, the poor wretch was removed to the hospital in a sinking condition, while the fair would-be surgeon was taken to quarters where she will probably not have an opportunity to indulge her chirurgical propensities, at least for some time to come.

It will perhaps be remembered that during the summer a short account was given in the "American Medical Weekly" of the case of one Caruth, editor of the "Vineland (N. J.) Independent," who was shot by C. K. Landis, the originator of this temperance village, and had at that time lived for three months, with the ball (a conical one) still in his brain. The unfortunate man has now finally succumbed, after surviving for more than

seven months. One of the most astonishing features about this case is the history of its treatment. Soon after the shooting, Landis telegraphed for Professor Gross, of Philadelphia, who, when he reached Vineland the following morning, found the patient in the hands of homœopaths, but, it seems, consented to make an examination and extract the ball if possible. The case has been published in full by the medical attendants, in "The American Journal of Homœopathic Materia Medica," and from it we learn that "after carefully collecting the symptoms (among which were noted free bleeding of the bullet wound, oozing of the cerebral substance by the tablespoonful, etc.) arnica, 200th (O ye gods and little fishes!) was given in doses repeated every two hours," before the arrival of Dr. Gross. The latter, according to the report, proceeded to examine the wound, and decided to make a crucial opening in the scalp sufficiently large to admit of a free examination of the parts within the skull in the line of the bullet. After doing this, he introduced his little finger and found several small pieces of bone, which he removed with forceps. He also found a larger piece one inch and a half inside of the cranium, which proved to be the one cut out by the bullet, containing both tables. He then introduced a flexible gum catheter, following the track of the ball, two and a half inches, and gave the opinion that it was impossible to reach it. After this, he closed the perpendicular opening with sutures and dressed the part with sweet oil and proper bandages. The patient was then left again to the tender mercies of the homœopaths. The shooting occurred on the 19th of March. On the 23d, two "professors of the Hahnemann Medical College" arrived from Philadelphia, and "after carefully examining the patient," these sages arrived at the comfortable conclusion that he "was doing as well as could be expected"; whereupon "the medicine" was continued, though at longer intervals. It is needless to go into the minute details with which all the "symptoms" are given from day to day. On the 19th of April the notes were as follows: "Muscles of the neck more swollen, purulent matter burrowed in small sac below

bullet wound, considerable soreness about occiput, pulse small and weak. In company with Dr. Morgan (one of the learned professors aforesaid), the symptoms of the patient were carefully collated, and by means of the 'symptomen codex,' and the first volume of 'Allin's Encyclopædia of Materia Medica,' they were compared with arsenicum album, when it was found that this remedy covered the entire group. Janichen's preparation in the 40 m. potency was given in repeated doses." And this at the end of the third quarter of the nineteenth century!

Among the remarks which follow the history of the case, are the following: "From the very commencement I have looked upon the case as a medical instead of a surgical one. However, he does condescend to acknowledge that "Dr. S. S. Gross did his part of the work well." "In order to get full and perfect curative effects of homœopathic medicine in the case, it was necessary that all things which could in any way interfere with the action of the remedy administered should be removed. And this included not only the regulation of the diet, bodily cleanliness, and atmospheric surroundings, but also the prohibition of all topical applications, such as medicated washes, plasters, poultices, and enemas." "Looking upon the case as one in which true homœopathic medicine was to accomplish the cure, our first work was to select the agent which was capable of producing on the healthy subject symptoms correspondiug with those presented by the patient, the single remedy which would cover the totality of the symptoms present. (How pleasant to have been that particular healthy subject in whom the remedy, when tested, produced all the symptoms and effects of a bullet lodged in the brain!) This remedy was found in *arnica mont.*, as any one may see who will take the trouble to compare the symptoms of the case with the pathogenetic effects of this profound remedy, as published in Allin's Encyclopædia. Another principle maintained in the case, was that the minimum dose which, in our judgment, would effect the cure in the most prompt and perfect manner, with the least disturbance to the organism, was

the one to be used. The arnica was continued from the 19th of March until the 1st of April without interruption; after the latter date medicine was not given until April 19th, the *cure* going on without material change in any particular."

It is hardly less astonishing than it is melancholy to think how many persons in the community of the greatest intelligence on all other subjects, willingly permit themselves to be duped by such knaves or fools as the author of the above. The announcement of the *cure* was slightly premature. While it was going on the brain tissue was gradually breaking down, and pus, without any means of escape, was accumulating under the meninges, so that at the autopsy three enormous cerebral abscesses were discovered, the ball being found in the posterior lobe of the right hemisphere. Were we in the position of Landis, we should certainly insist that this brilliant exponent of the principles and practice of homœopathy should be indicted as an accessory to the murder.

People in New Jersey seem to have a remarkable faculty of getting along with bullets in their brains. The same day on which we saw the death of Caruth, we noticed in the paper an account of a German in Newark, who had been in this perdicament for two weeks, and instead of dying quietly, as it was expected he would, seemed in a fair way of recovery. He had shot himself in the head while awaiting trial for some offence, and when the day on which the case was called came, the Court ordered it removed from the callender, on the ground that the accused had been summoned to answer before a higher tribunal; in doing which, as the sequel showed, the Court was slightly premature.

A good many pious folks, not remarkable for their mental acumen, were very much exercised during the past summer and autumn over the alleged cures of a number of invalids by a Miss Mosman, and her circle at Ocean Grove, through the agency of faith and prayer. The most notable instance was that of a Rev. Mr. Platt, of Brooklyn, who was said to have been "lame in both legs" for twenty-five years. We were,

therefore, very glad to notice a sensible editorial on the subject in one of our most influential religious weeklies, whose tone may be judged from the following paragraphs:

"It will always be found, we think, that there is some delusion with regard to the facts. In cases of healing, the difficulty in tracing out the supposed recovery is too great for any human undertaking. There can be no perfect diagnosis. Every quack remedy produces some respectable evidence of working cures. The vilest pretenders have often cured incurable diseases. Every tenth man in the Union knows of some miracle of this sort. * * * We wholly reject all the testimony to quack cures; and we are disposed to treat the prayer-cures in the same way.

"In short, we can not connect modern miracles with a sufficiently large purpose to make them credible. The miracles of our Lord are credible because the purpose for which they were wrought is worthy of God. The want of the corresponding quality in feats of animal magnetists, spiritists, or prayer-healers makes it useless to canvass the evidence."

Dr. B. F. Dawson has invented a new galvanic cautery battery, which combines remarkable power with great compactness of form. In it are two platinum and four perforated zinc plates, the latter being placed on each side of the platinum ones, and the fluid used is the ordinary solution of bichromate of potassium in sulphuric acid and water. The peculiar feature of the battery consists in the hard-rubber T-shaped pumps, which are worked up and down between the plates by the hand, for the purpose of constantly supplying new fluid to their surfaces and preventing polarization of the cells.

It is gratifying to know that you are still carrying on your energetic crusade against the abounding evil of newspaper advertising. The following, which appeared in the "Herald" a few days ago, is only one of the innumerable instances in which the Profession is being continually brought in disrepute.

"Many of the poor who used to visit the Park Hospital for medical treatment have been without advice for some time past.

Those of them who are unable to pay doctors' fees, can call on and be attended free of charge by Dr. Thomas Smith, ex-Senior Surgeon of the Park Hospital, whose office is at No. 12 Centre street."

"What a noble and kind-hearted physician!" many simple-minded persons will exclaim on reading the paragraph, entirely oblivious of the fact that the New York Dispensary, the oldest and one of the best in the city, is within two or three blocks of Dr. Smith's office. Yet this individual is, no doubt, recognized as one of our "regular practitioners," or else he would not have had the above position. Faithfully yours,

STAR.

CIRCULAR TO THE MEDICAL PROFESSION.

OFFICE OF PRESIDENT STATE MEDICAL ASSOCIATION,
Huntsville, Ala., October 4, 1875.

To the Members of the Medical Profession of the State of Alabama:

As the official representative of the Medical Association of the State of Alabama, I deem it a part of my duty to urge upon you the importance of more thorough organization. The duties imposed upon the State Association by the recent act of the General Assembly, constituting it a State Board of Health, and the County Societies County Boards of Health, have been formally accepted by the Association, at its late session in the city of Montgomery, and in order that the system thus inaugurated may be properly and effectually worked in all its details, and that the State and the Profession shall reap the fullest benefits from it, it is very important, and indeed necessary, that there should be a well-organized Medical Society in every county in the State, to act as County Boards of Health. It is, therefore, hoped that all the medical gentlemen, in counties in which no societies exist, will at once form themselves into societies in accordance with the constitution of the State Association, and send one or more delegates to the next session, in the

city of Mobile, on the second Tuesday in April next, at which time the Association will be prepared to grant charters to all regularly organized societies in the State.

Now that the sickly season has passed, members of the Profession can possibly spare the time more conveniently than at any other, to give attention to this important duty, which they owe, not only to themselves and the Profession, but to the State, which has conferred upon us such high and important duties.

The very able and exhaustive addresses of my immediate predecessors, Drs. Ketchum and Weatherly, on the subject of Public Hygiene, have already had the beneficial effect of directing the attention of the General Assembly to the great importance of the subject, and no doubt the act of that body, above referred to, will be followed by others of like character, at its subsequent sessions.

The Medical Association of the State was never, since its organization, in a more prosperous condition, and never was in a more favorable situation than now to accomplish so much good, not only for the Profession, but also for the State. Having taken upon itself the guardianship of the Public Health, the educated class of our fellow citizens expect us to perform our duties faithfully and well, and their coöperation and assistance may, with confidence, be relied on in carrying forward the great and important work before us.

As soon as societies are organized, they should be reported at once to Dr. B. H. Riggs, Secretary of the State Medical Association, Selma, Alabama.

J. J. Dement, M. D.,
President M. A. S. A.

Note.—This plan of a State Board of Health is recommended to the Profession in other States.—Ed.

MISCELLANEOUS.

"Non omnes eadem mirantur ament que."

Dr. John Hughes Bennett.—The Profession of Great Britain has lost one of its most prominent members by the death of John Hughes Bennett, late Professor of the Institutes of Medicine at Edinburgh. He died on September 25th, at the age of sixty-three, a few days after an operation for stone in the bladder. He was in all respects a remarkable man, a deep thinker and good practitioner, who united scientific and practical attributes to a degree rarely seen. He was an original investigator of great enthusiam and keenness, who endeavored to draw practical deductions from facts or theories that to others were ends in themselves. His conclusions were, no doubt, not always sound, and he was by no means free from prejudice, but much of his work will live after him. He was an excellent teacher, endowed with the rare talent of making alike attractive and profitable to his class both his theories and his experience. Many may criticise much that is to be found in his "Practice of Medicine," but no one can read it without being impressed with the vigor of the author. In microscopy he was an opponent of the cellular doctrine in its entirety, holding that granules were the really active elements. In his "Practice" he says, "As to development, the molecular is the basis of all the tissues. The first step in the process of organic formation is the production of an organic fluid; the second, the precipitation in it of organic molecules; from which, according to the molecular law of growth, all other textures are derived, either directly or indirectly."

In 1857 he was the leader of the reform party in the celebrated discussion on venæsection, and contributed probably more than any other man to the decline of the practice. It is proper, however, to remember that he was the opponent only of its general and indiscriminate use, and had no desire to have it numbered among the lost arts. He did good service also by

protesting against the excessive use of mercury. It is, we believe, acknowledged that he was the first to recognize the combination of symptoms known as leucocythæmia.

We give some account of the case of this distinguished man, interesting in itself, which we take mostly verbatim from Mr. Cadge's account in the "British Medical Journal."

"By slow degrees his general health failed, he grew thinner, looked pale, and lost strength. A few years ago it was discovered that he had diabetes; but this disappeared without any great rigor of treatment, and has not been thought or known to have recurred, except occasionally and very slightly. . . . . Very recently, however (in August), sugar was again found; and I have before me a paper containing observations on the urine made three times daily during the first half of September, 1875, from which it is shown that, while the specific gravity and the quantity of the urine were but little, if at all, above the natural standard, sugar appeared and disappeared in a quite irregular and intermitting way. . . .

"If," says Mr. Cadge, "in this long interval between the first and last clear recognition of diabetes, the urine was but seldom examined, and, when examined, chanced to be free from sugar, it seems probable that glycosuria, in one of its intermittent and milder forms, existed throughout, and was the true and chief cause of the emaciation and debility which, on any other hypothesis, it has been found so difficult to explain. . . .

"Be that as it may, his health continued to decline. The last three winters he passed in the south of France, with some benefit, possibly, to his bronchial and laryngeal affection, but apparently without any effect on his general state. For many years Dr. Bennett had suffered from occasional attacks of gout, and he was liable, too, to lithic acid deposit in his urine; occasionally, for several years, he had experienced some slight impediment and irritation in making water, which he thought to be due either to slight stricture or to prostatic enlargement. From time to time a simple catheter was passed, but no stric-

ture was discovered. Last winter, at Nice, he had rather more vesical irritation than usual. . . .

"In July he came to Norwich, looking more emaciated, pale, and ill than I had ever seen him. On carefully sounding, a stone was readily felt, apparently of some size; the bladder was capacious and healthy, and could retain nearly half a pint of urine; the prostate was slightly enlarged; the urethra very sensitive and irritable; the urine was clear, acid, specific gravity 1020, and contained no albumen. He was much depressed by the knowledge that he had stone, but his innate force of character came to his aid; he looked the difficulty in the face, and was prepared at once to undergo treatment. . . . He returned to Norwich in September, and the question of operation, lithotomy or lithotrity, presented itself. Either must be attended with the greatest hazard in one so worn and unhealthy; but the thought of doing without operation was simply intolerable, and not to be considered. In favor of lithotrity were the fair quietude and healthy condition of the bladder and urine; but there were serious drawbacks. Dr. Bennett was a man of high spirit and courage; but his courage fitted him rather to encounter one great risk than to endure the wear and tear of repeated operations, frequent use of instruments, and the probability (made more probable by the presence of glycosuria) of troublesome cystitis. The size of the stone alone could decide the point; and, to ascertain this, Mr. Clover kindly came down and administered nitrous oxide, followed by ether; while, with the lithotrite, I found that the stone measured one and a half inches by one inch. Such a stone as this was fairly within the compass of lithotrity in an otherwise favorable patient; but, in this case, I had not a moment's doubt that lithotomy, if carefully and accurately done, notwithstanding its greater immediate risk, afforded the best chance of complete recovery. In this view the patient readily acquiesced, and on the following day, September 16th, I removed the stone by lateral lithotomy, assisted by Mr. Crosse, Dr. Beverley, and Mr. Hooker. The nitrous oxide and ether were again used by Mr. Clover, with

admirable effect; there was never a movement of the patient, nor the least headache or sickness afterwards. The operation was easy and satisfactory. The transvere artery of the perineum was large, and spurted freely; it was easily tied when the stone was removed; the blood was so thin, and so little disposed to coägulate, that every little vessel continued to ooze, and I deemed it best to plug the wound round a silver tube rather than allow any quantity of blood to be lost. The stone was composed of lithic acid; it measured one and a half inches by one inch, and weighed one hundred and ninety-three grains. No more blood was lost, and urine passed freely afterwards. He suffered considerable aching pain in the wound for some hours; but it was gradually checked by half a grain of morphia introduced into the rectum at the time of operation, and twenty drops of Battley by the mouth two hours after. At night he turned cautiously on one side, took twenty grains of chloral, and had some hours' sleep. Pulse 90. . . .

"I need not record minutely the daily progress of the case. Suffice it to say that for four or five days there was a good prospect of speedy recovery; he took food plentifully and was in good spirits, and everything went on well so far as concerned the pelvis and bladder; the urine was easily caught and was clear, but loaded with sugar, with a specific gravity of 1030 to 1035. By degrees, however, the cough and expectoration became more frequent; and this, with the frequent spasm and larger amount of urine secreted, distressed him and prevented sleep. Opiates by the mouth or bowel relieved for the time, but were apt to be followed by sickness; chloral did not act well, and signs of increasing debility showed themselves. The pulse continued from 90 to 96, but became weaker and weaker. Aphthous patches gathered on the tongue and throat, and made swallowing difficult, and thus the prostration went on, and death from sheer exhaustion took place on the 25th, the tenth day after the operation."

"Post-mortem examination, forty-eight hours after death. The body was emaciated; the surface pale and bloodless. The

blood was thin, and transuded through the vessels and stained the tissues. Only one small clot in the right ventricle of the heart was met with. The bladder was perfectly healthy; its muscular walls were rather thin and dilated; its mucous membrane was pale and smooth. The prostate gland was enlarged to the size of a small apple; it projected somewhat like a cornice into the bladder, and on this projecting part there were traces of slight ecchymosis beneath the mucous membrane. The lithotomy wound was clean, and so slight that, looking from the bladder, none could be seen, and on closer scrutiny it was found that the knife had only divided the mucous membrane and had scarcely reached the left lobe; this doubtless explains the power of the bladder to retain urine the moment after the tube was removed. . . . On raising the calvarium, a soft tumor was discovered situated on the right side of the head, about an inch above the ear, between the dura mater and the bone. It was about the size of a hen's egg, and projected toward the brain, so as to produce a deep pit or hollow, into which it fitted.

The convolutions were flattened and pressed down, but not otherwise altered; no softening; no congestion. The dura mater covering the tumor was somewhat thickened. The parietal bone was thickened and hypertrophied around the circumference of the tumor; over it there was thinning by pressure and absorption, and at one polnt, about the size of a shilling, all trace of bone had disappeared, and it was replaced by fibrous membrane. The tumor had a cystoid character, with a distinct investing membrane, and its contents consisted of a blackish pulpy material resembling the interior of a recent aneurism, or more closely of a myeloid tumor. Under the microscope there were seen cells of various descriptions, plates of cholesterine, fatty granules, and altered blood corpuscles. The brain itself was anæmic, but not, on the whole, unhealthy; it weighed forty-seven ounces. The optic thalami, corpora striata, pons Varolii, and medulla oblongata had a somewhat shrunken, atrophied appearance, and were perhaps harder and tougher than usual."—*Med. and Surg. Jour.*

"Enlightened Sexology," so-called.— Dr. F. H. Milligan, of Minnesota, has written a very sensible article in the "Philadelphia Medical and Surgical Reporter," from which we make the following extract:

"Years ago, in my good old mother State of Pennsylvania, abortions among married women were the exception and not the rule. Little was then known of 'Enlightened Sexology,' and very little bromide of potassium was used. Christian and enlightened women considered it a crime of the worst kind, and I assure you that if the number of children in our old Pennsylvania families was anything to judge by, the rights of the husband were not neglected.

"This whole question of the 'sexual problem' is unworthy of the age, and is the necessary outgrowth of a society recovering from the effects of a great civil war. Marriage is a voluntary agreement, made sacred, as it should be, by the laws of God. People who are married should have children. How often, in our old Pennsylvania homes, have you and I heard the compliments given to a newly married couple, 'May you prosper and have many children.' Go back a quarter of a century and tell me honestly if there were any wives of intelligent Christian gentlemen pathetically exclaiming, 'I count the days till I shall be fifty.' How much of this view expressed by his wife was the result of 'Amended Woodhullism;' and how much, alas, was the result of the false Christian doctrine inculcated, probably, by some of our modern clergymen!

"Would that I had the eloquence of a Charles D. Meigs, or a Thomas D. Mutter, to arouse my professional brethren (more particularly those of the younger class) to admonish them to pause and think before they lend themselves to this new idea of the 'limitation of the offspring of lawful marriage.' It is now the source of more than two-thirds of all the diseases with which our married women are afflicted. It tends to make her who should be the head of a household irritable to children, husband, and friends; and too often drives the husband to seek the society of a 'frail sister' for that reasonable sexual indul-

gence which is, and should be, enjoyed by every married man and woman in usual health.

"I can not agree with those who maintain that there is any need of instruction in 'sexual hygiene.' I think this whole subject can be illustrated sufficiently by the knowledge which is now imparted by the text-books on physiology, which are now used in all our high schools and academies. I am decidedly opposed to the introduction into our universities and normal schools of this new idea of 'sexual hygiene.' A mother's influence and a father's authority, governed by Christian precepts of the 'old kind,' would, in my opinion, be all that the young of either sex would require. Let us, as American citizens, take warning of the nations of the past. Imperial Rome, with all her grandeur and greatness, fell. The luxury, debauchery and immorality of her citizens were, no doubt, the cause, of all others, of her decline. Among certain classes of American women child-bearing has become vulgar and unpopular. Their lives are too much devoted to the calls of society. Fashion, to them, is everything, and in these glorious days of the Republic it is not considered fashionable to bear children, even in honorable wedlock."—*Pac. Med. and Sur. Jour.*

Premature Baldness—Treatment.—Dr. Pincus suggests the following treatment in the first stage of premature baldness. This stage is recognized by a daily loss of under fifty hairs, by diminished sensibility to pressure, and, after a time, by commencing hardness and immobility of the scalp. If now weak alkaline washes be applied to the hair for a year or more, the progress of baldness is arrested, and in some cases the mischief already done is restored. He recommends a solution of caustic potash, one part to five hundred of water, or fifteen grains of the bicarbonate of potash to an ounce of water. Two or three drachms of this solution is to be rubbed into the scalp for from three to five times daily. After a time, this may be done every other day and then only once a week.—*Klin Woch.—Lon. Med. Record.*

Dr. Pincus thus describes the three changes by which hair may be rendered gray, as follows: (1) The pigment disappears from the external layers of the cortical substance. This is by far the commonest cause. By close observation it will be seen that any single hair in the course of the slow growth of years, undergoes repeated alterations of color. (2.) Then occur in all the stronger hairs in the cortical and medullary substances, little interspaces between the separate imbrications. In certain cases these spaces attain an extraordinary size in the central portions. In such cases if there be only diffuse pigment in the external portions of the hairs, the central portions will appear gray. (3) The cortical portions of the hair may become split in places into a multitude of brush-like divisions. These places appear as gray points, and if these points lie near each other the entire hair appears gray.—*Klin. Woch.—N. Y. Med. Rec.*

Sulphuric Acid in the Treatment of Boils.—Dr. Marsh has used sulphuric acid, which he regards as almost a specific for boils, with constant success for twenty-five years. "As soon as the patient applies for relief, I put an adult on elixir vitriol, 20 drops, three times a day, in a glass of sweetened water, one hour before meals, previously smearing the teeth well with fresh butter, in order to protect them. This is much better than sucking through a quill, and is a perfect protection, if the teeth are subsequently washed with a solution of bicarb. sod., a heaped teaspoonful to a glass of water. In the use of sulphuric acid, the boil will soon melt away and disappear, no more to reäppear. The acid should be kept up in ten-drop doses for at least two weeks after the boils have disappeared. To afford relief from pain and soreness, I applied a piece of common adhesive plaster, cut round, sufficiently large to cover the tumor, clipping the edges so that it will set smooth."—*Practitioner.*

MEDICAL NEWS.

'Nulla dies sine linea."

The Doctors.—This is the title of a large engraving by Gustave Doré; it has been imported from London expressly for the subscribers to this Journal, and is given in place of "Harvey's Illustration of the Circulation" promised last Spring. The plate is 16 by 14, handsomely printed and executed by the most celebrated artist of the present day. It will be ready for mail during this month.———*The Decennial Index* for the past twenty volumes of this Journal will soon go to press. Those who wish to secure it, should lose no time in sending forward their orders, as only a limited number will be issued. Price per copy 50c.; to be sent hereafter, or with the order, as preferred.———Index for Vols. XIX and XX. will be issued complete during the month, and will be mailed with the engraving by Doré.——— The pages of this Journal will be enlarged hereafter, and it will be printed on heavy tinted paper. It will be improved in appearance and material.——— The excellent Review in this issue of the Journal is from the pen of Dr. George T. Erwin, of Danville, Ky.——— *Diplomas from State Societies.*—Not long since we noticed the granting of "Diplomas" by the New Jersey State Medical Society, after due examination of candidates. We observe that a similar course maintains in the State Society of Maryland. In the transactions, as published, it is announced that "Diplomas" had been issued to Henry W. Owings, Andrew Hartman, and George W. Wayson, they having passed the Board of Examiners and paid the usual fee of ten dollars.—*Pac. Med. and Sur. Jour.*———*A Place Without Quacks.*—At the opening of the sessions of the West Virginia Medical Society, Dr. A. L. Knight declared that for seventy odd years the practice of Mason county, in which the meeting was held, had been exclusively in the hands of regular physicians, and that "never in the history of the county's development has an irregular practitioner for any length of time been supported or even coun-

tenanced by its respectable citizens."—*Ibid.*———*The* killed on English railways in the year 1874 were 1424; the wounded 5041.———*Ten* cases of Echinococcus, developing as hydatids, are described in the "Australian Medical Journal."——*A Committee* on anæsthetics has been appointed by the British Medical Association, consisting of Professor Lister, Pirrie, Burdon Sanderson, Spencer Wells, and others. They will investigate the comparative merits of the various anæsthetics.——— *We* understand that renewed efforts will be made at the coming session of Congress to obtain the passage of the bill increasing the rank of surgeons in the army. The matter is sufficiently familiar to the Profession to need no comment, for we all know how great is the merit of the medical corps of the army, how severe yet excellent their work, and how small the reward; but it is greatly to be desired that these facts should be made so evident that Congress can not overlook the justice of the claim.—*Boston Medical and Surgical Journal.* ———*An* attempt to explain the emaciation of consumption is made by Edward Williams, M. D., in a paper published in the "Medical Press and Circular." It has been noticed that when in phthisis the apex of the right lung is alone affected, loss of flesh is not observable. When emaciation occurs it appears to be due to the deficient supply of chyle to the venous system. When the left lung becomes the first affected, emaciation more speedily shows itself in consequence of the thoracic duct opening into the left subclavian vein and becoming more immediately subject to the mechanical pressure of the disorganized lung. The impeded passage of the blood through the right side of the heart causes engorgement of the descending jugulars and left subclavian vein, and the engorged veins, pressing on the outlet of the thoracic duct, also prevent the flow of chyle into the venous system. Hence the inference that the emaciation occurs in consequence of a sufficient supply of chyle not being able to find its way into the venous system on account of the mechanical obstruction referred to above.—*Bost. Med. and Sur. Jour.*

When this number reaches many of the subscribers, that period will be near at hand which is the most joyous, the happiest of the year; Merry Christmas, and, soon after it, the Happy New Year.

It is true the time has passed, when, as of yore, "the lord of misrule" and "the abbot of unreason" are yearly appointed to hold "sovereigne swaye" until Candlemas Eve (February 2). It is true that no longer is the yule log kindled with music and conjuring; with riddles, hot cockles, snap-dragon, jokes, forfeits and dancing; "the old wassail bowl" has no longer a place on each sideboard for "serf and lord"; for the lowest as well as the highest in each household; the boar's head is no longer garnished with ivy and flowers and borne "upon a silver platter with minstralsye" by the noisy and festive procession; the druidical custom of decking the family gathering-

places with holly and rosemary, with bay, laurel, and mistletoe, has almost passed away; and no longer is there in every household "the grand captaine of mischiefe"; yet, with the disappearance of most of these once familiar insignia of this the most classic and loved festival of the year, there has not disappeared, and never will disappear, the higher manifestations of personal gratitude, gladsomeness, and good will. The material insignia of personal merriment and family festivity are almost all gone, but the deeper emotions of which these are but the symbols remain unchanged and unchangeable; and "Merry Christmas and Happy New Year" come now from the lips and the heart with the same sincerity, as when Knecht Rupert went with pomp and reverence to each German home, and Santa Claus (St. Nicholas) was believed to descend upon every family hearthstone to gladden the eyes and win the hearts of the joyous and believing children. The heart must be bitter or blasted indeed which does not thrill with the welcome salutation of each familiar friend, Merry Christmas and Happy New Year. Books as well as beings have their relations to happy seasons, and in their history also Christmas has its place, its sigificance, and its associations.

Ten years ago, this Journal was passing through the press. The Christmas season of 1865 was the period of its birth. The country at that time was in a memorable condition. The links which for a century had bound together the North and South had been rudely severed, and as yet they had not been recemented. At the South, agriculture was a wreck. Labor was disorganized. Capital had fled; or, in alarm, was safely locked up and fruitless. Commerce was a dream of the past. Social laws and customs were disorganized. The wealthy had been beggared; the poor were left helpless, often homeless, as well as pennyless. Household utensils and ancestral heirlooms were being bitterly exchanged for bread. The South was one vast ruin; its surface billowed with graves. It was at such a time that this Journal was born; coming before the country for recognition, patronage, and support.

Since that memorable period, the country has passed through trials unprecedented in its history. Under the trials of reconstruction; incontrollable and often vagrant labor; an unsettled currency; loss of confidence; failing crops; widespread bankruptcy; enormous taxation; the failure of State and municipal credit.

After its recent baptism of blood, there came this ordeal of want and almost universal ruin. To suppose that a large and expensive Journal could be originated, developed, and perpetuated under such circumstances without the severest consecutive trials, physical, pecuniary, and personal, is to suppose an impossibility. Through it all, the work has struggled severely but always successfully, and to-day it stands stronger than ever before. More than this, it is to be hereafter materially improved and rendered more attractive both in material and appearance.

It is true that much of its success has been due to the severest labor; but conspicuous in its whole history is the fidelity and power of its kind and zealous friends. With this consciousness and such memories, it is but natural that, in entering upon its second decennial period, at this kindly period of the year, it should, with gratitude and earnest feeling, wish each of its very many supporters a Merry Christmas and Happy New Year.

Improvements.—Hereafter this Journal will be printed on heavy rose-tinted paper, with enlargement of the present size of its page. Arrangements have been made also to improve its literary, as well as its material value. The patrons of the Journal will please notice the printed terms on the cover, and economize for themselves, a dollar each by prompt remittance.

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